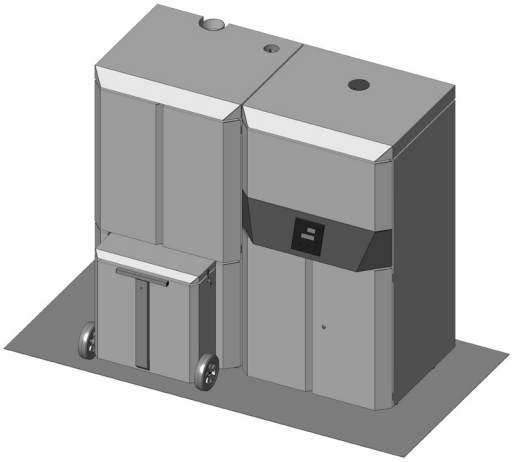

PELLET BOILER

LOGIKA 25-35
LOGIKA 25-35 REFILL

PART 1 - ASSEMBLY

Translation of the original instructions

red

8901231800

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INTRODUCTION

Dear Customer,
Thank you for having chosen our product.
In order to make the most of this product and ensure its maximum efficiency, you are advised to read this manual carefully before initial use.

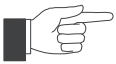
REVISIONS TO THE PUBLICATION

The content of this manual is strictly technical and the property of MCZ Group Spa.
No part of this manual can be translated into another language and/or altered and/or reproduced, even partially, in another form, by mechanical or electronic means, photocopied, recorded or similar, without prior written approval from MCZ Group Spa.
The company reserves the right to make changes to the product at any time without prior notice. The proprietary company reserves its rights according to the law.

CARE OF THE MANUAL AND HOW TO CONSULT IT

- Take care of this manual and keep it in an easily accessible place.
- Should the manual be misplaced or ruined, request a copy from your retailer or directly from the authorised Technical Assistance Department.
- The "**text in bold**" must be read with particular care.
- The "*text in italics*" draws attention to other sections in this manual or clarifications.
- "NOTE" provides the reader with additional information.

SYMBOLS USED IN THE MANUAL

	ATTENTION: Read the relative message with care because **failure to observe the information provided could result in serious damage to the product and danger to the persons who use it**.
	INFORMATION: failure to comply with these provisions will compromise the use of the product.
	**OPERATING SEQUENCES:** sequence of buttons to be pressed to access the menus or make adjustments.
	MANUAL carefully read this manual or the relative instructions.

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1-WARNINGS AND WARRANTY CONDITIONS

SAFETY PRECAUTIONS

- **Installation, electrical connection, functional verification and maintenance must only be performed by qualified or authorised personnel.**
- **Install the product in accordance with all the local and national laws and Standards applicable in the relative place, region or country.**
- **This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or trained on how to use the product by a person responsible for their safety.**
- Use only the type of fuel recommended by the firm. The product must not be used as an incinerator. It is strictly forbidden to use liquid fuel.
- The instructions provided in this manual must always be complied with to ensure the product and any electronic appliances connected to it are used correctly and accidents are prevented.
- The user, or whoever is operating the product, must read and fully understand the contents of this installation guide before performing any operation. Errors or incorrect settings can cause hazardous conditions and/or poor operation.
- Do not put linen on the product to dry. Any clothes horses or similar objects must be kept at a safe distance from the product. **Fire hazard.**
- All liability for improper use of the product is entirely borne by the user and relieves the Manufacturer from any civil and criminal liability.
- Any type of tampering or unauthorised replacement with non-original spare parts could be hazardous for the operator's safety and relieves the company from any civil and criminal liability.
- Most of the surfaces of the product can become extremely hot (the door, handle, flue pipes, etc.). **Avoid touching these parts without appropriate protective clothing or devices like heat insulated gloves**.
- **It is forbidden to use the product with its door open.**
- The product must be powered by a system that is equipped with an effective earth system.
- Switch the product off in the event of a fault or malfunctioning.
- Do not wash the product with water. The water could get inside the unit and damage the electrical insulation and cause electric shocks.
- Do not put any fuel other than wood pellets in the hopper.
- Install the product in rooms that are adequately protected against fire and equipped with all the utilities such as supplies (air and electricity) and smoke outlets.
- In the event of fire in the chimney, turn off the device, disconnect it from the mains and do not open the hatch. Then contact the competent authorities.
- It is recommended not to remove the feet that support the product in order to guarantee adequate insulation, especially if the flooring is made of flammable material.
- If the ignition system is faulty, do not force ignition with flammable materials.
- Special maintenance must only be performed by authorised and qualified personnel.
- Assess the static conditions of the surface on which the weight of the product will rest and provide suitable insulation if it is made of flammable material (e.g. wood, fitted carpet or plastic).

1-WARNINGS AND WARRANTY CONDITIONS

INFORMATION:

Please contact the retailer or qualified personnel authorised by the company to resolve a problem.

- only fuel stipulated by the company must be used.
- Check and clean the smoke outlet pipes regularly (connection to the chimney).
- Always keep the cover of the fuel hopper closed.
- Keep this instruction manual in a safe place, as it should accompany the stove along its entire life cycle. If it is sold or transferred to another user, always make sure that the manual accompanies the product.

INTENDED USE

The product only works with wood pellets and must be installed indoors.

WARRANTY CONDITIONS

The firm guarantees the product, **with the exception of parts subject to normal wear** specified below, for **two years** from the date of purchase, provided that proof of purchase is supplied in a document specifying the name of the retailer and the date the sale was made and that the completed guarantee certificate was sent within 8 days of said purchase. The product must also be installed and tested by a specialised fitter and in accordance with the detailed instructions provided in the instruction manual that accompanies the product.
The guarantee covers the replacement or free repair **of parts recognised as being faulty at source due to manufacturing defects.**

RESTRICTIONS

The guarantee does not cover parts subject to normal wear such as gaskets, glass, and any parts with can be removed from the firebox.
Replaced parts will be covered by the warranty for the remaining period of the warranty in force as from the date of purchase of the product.

EXCLUSIONS

The warranty does not cover any part that may be faulty as a result of negligence or careless use, incorrect maintenance or installation that does not comply with the company's instructions (see the relative chapters in this user manual).
The company declines all liability for any damage which may be caused, directly or indirectly, to persons, animals or objects as a consequence of non compliance with all the prescriptions specified in the manual, especially warnings regarding installation, use and maintenance of the appliance.
If the product does not work correctly, contact your local retailer and/or importer.
Damage caused during transport and/or when handled is excluded from the warranty.
The supplied installation guide is the only reference for installation and product use.
The warranty will be rendered null and void in the event of damage caused by tampering, atmospheric agents, natural disasters, electrical discharges, fire, defects in the electrical system, and maintenance not being performed at all or as indicated by the manufacturer.

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1-WARNINGS AND WARRANTY CONDITIONS

INTERVENTION REQUEST

The company declines all liability if the product and any other accessory is used incorrectly or altered without authorisation.
All parts must be replaced with original spare parts.

The request must be sent to the retailer who will forward it to the Technical Assistance Department.

SPARE PARTS

Use only original spare parts. The retailer or service centre can provide all the useful information regarding spare parts.
It is recommended not to wait for the parts to be worn before having them replaced. It is important to perform regular maintenance.

PRECAUTIONS FOR CORRECT DISPOSAL OF THE PRODUCT IN ACCORDANCE WITH THE EUROPEAN DIRECTIVE 2002/96/EC AND ITS SUBSEQUENT AMENDMENT 2003/108 EC.

At the end of its working life, the product must not be disposed of as urban waste.
It must be taken to a special differentiated waste collection centre set up by the local authorities or to a retailer that provides this service.

Disposing of the product separately prevents possible negative consequences for the environment and health deriving from inappropriate disposal and allows its materials to be recovered in order to obtain significant savings in energy and resources.
As a reminder of the need to dispose of appliances separately, the product is marked with a crossed-out wheeled dustbin.

1-WARNINGS AND WARRANTY CONDITIONS

RULES ON INSTALLATION

The product is a boiler that uses wood pellets.
It must be installed as per the following standards:
Legislative Decree no. 93 of 25 February 2000
Implementation of Directive 97/23/EC (PED) on pressure equipment.
FIELD OF APPLICATION: devices that use liquid fuels (naphtha, gas oil, fuel oil) and solids.
LAW NR. 46 of 5 March 1990 and relative applicable regulations, Presidential Decree 447 of 6 December 1991 (and subsequent amendments) and **M.D. 37 of 22 January 2008.**
Rules on safety of the systems.
FIELD OF APPLICATION: with unlimited heat capacity.
Standard UNI 10847 of 03/2000.
Single flue systems for generators that use solid and liquid fuel. Maintenance and checks. Guidelines and procedures
FIELD OF APPLICATION: systems that use solid and liquid fuel.
LAW NR. 10 of 09 January 1991 and relative applicable regulations, **Presidential Decree 412 of 26 August 1993** (and subsequent amendments), **Presidential Decree 551 of 21 December 1999.**
Regulation implementing amendments to Presidential Decree 412 on the design, installation, use and maintenance of technical systems of buildings for containing energy consumption.
FIELD OF APPLICATION: with unlimited heat capacity.
LAW 186 of 01.03.1968
Installation standard IEC 6408 / II ed.
Electrical systems with rated voltage not exceeding 1000 V AC and 1500 V DC.
Installation standard IEC 64-8 / I ed.
Electrical systems for residential buildings and similar.
Standard UNI 10683 of 09/2005.
Systems fuelled by wood or other solid biofuel.
Installation requirements.
FIELD OF APPLICATION: Systems fuelled by wood or other solid biofuel with heat output of the firebox of less than 35 kW.

Installation must be carried out with reference to the diagram of the heating system prepared in accordance with the standards and local recommendations in force:

- For the heating system - **EN 303-5** (September 2012) - Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW - Terminology, requirements, testing and marking
- Local requirements for connection to the chimney.
- Local requirements for fire-fighting standards.
- For electrical parts - **EN 60335 "Safety of electrical household appliances and similar"**
  Part 1 - General requirements
  Part 2 - Particular standards for appliances with gas, gas oil and solid fuel burners without electrical connections.

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2-INSTALLATION INSTRUCTIONS

The requirements in this section relate to the provisions of the Italian standard of installation UNI 10683. In any case, always observe the domestic rules in force.

PELLETS

Wood pellets are manufactured by hot-extruding compressed sawdust which is produced during the working of natural dried wood. The compactness of the material is guaranteed by the lignin contained in the wood itself and allows pellets to be produced without glue or binders.

The market offers different types of pellets with characteristics that vary according to the wood mixtures used. The diameter varies between 6 and 8 mm, with a standard length ranging from 5 to 30 mm. A good quality pellet has a density of between 600 and 750 or more kg/metres cubed and a water content that accounts for 5 to 8% of its weight.

Pellets have technical advantages besides being an ecological fuel, as the wood residue is used completely, thereby achieving cleaner combustion than that of fossil fuels.

Good-quality wood has a calorific value of 4.4 kW/kg (15% moisture, after about 18 months of seasoning), whereas that of pellets is 4.9 kW/kg. To ensure good combustion, the pellets must be stored in a dry place and protected from dirt. Pellets are usually supplied in 15 kg bags, therefore, storing them is very convenient.

Good quality pellets guarantee good combustion, thereby decreasing harmful emissions into the atmosphere.

15 Kg BAGS OF FUEL

The poorer the quality of the fuel, the more often the internal parts of the brazier and combustion chamber must be cleaned.

The main certifications of quality for pellets in the European market are **DINplus**, **Ö-Norm M7135, Pellet gold**; these ensure respect of:

- calorific value: 4.9 kWh/kg.
- Water content: max 10% of the weight.
- Percentage of ash: max 0.5% of the weight.
- Diameter: 5 – 6 mm.
- Length: max 30 mm.
- Content: 100% untreated wood without the addition of binding substances (max 5% bark).
- Packaging: in sacks made from ecologically compatible or biologically decomposing material.

The company strongly recommends using certified fuel for its products (DINplus, Ö-Norm M7135 or Pellet Gold). Poor quality pellets or others that do not comply with that specified previously compromises the operation of your product and can therefore render the warranty and product liability null and void.

2-INSTALLATION INSTRUCTIONS

PRECAUTIONS REGARDING INSTALLATION

IMPORTANT!
Product installation and assembly must be carried out by qualified personnel.

The product must be installed in a suitable place for it to be regularly opened and routine maintenance to be performed.
The site must be:

- compliant for proper operation.
- Equipped with an adequate smoke expulsion system.
- Equipped with ventilation intake from outside.
- Equipped with 230V 50 Hz power supply with an EC compliant earth system.

The product must be connected to a chimney or vertical duct, either inside or outside, that conforms to the standards in force. The product must be positioned in such a way that the electrical socket is accessible.

IMPORTANT!
The product must be connected to a chimney or a vertical duct that can expel the smoke at the highest point of the building.
The fumes are however derived from the combustion of wood products, and if they come into contact with or close to walls, they can make dirty marks. Moreover, utmost attention is required as they are almost invisible but very hot and can cause burns. The holes of the external air inlet and the smoke outlet pipe must be drilled before positioning the product.

THE OPERATING ENVIRONMENT

For correct operation and even distribution of heat, the product must be placed where the air required for combustion can flow.

The volume of the room should be no less than 15 m^3

These openings (air inlets) must be made in such a way that it is impossible for them to be obstructed in any way.
The air can also be taken from rooms adjacent to the one which needs ventilating, as long as they are provided with an air intake from the outside, and are not used as bedrooms or bathrooms, and provided there is no fire risk such as there is for example in garages, woodsheds, and storerooms where inflammable material is kept, with reference to what is laid down in current standards.

If the product is placed too close to the wall it could cause overheating and damage the plaster (yellowing, cracking, etc.).

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2-INSTALLATION INSTRUCTIONS

POSITIONING AND RESTRICTIONS

In the case of simultaneous installation with other heating appliances, provide appropriate air inlets for each one (according to the instructions of each product).

The product cannot be installed (except for sealed or closed operation appliances with external ducted combustion air intake):

- ***in bedrooms or bathrooms;***
- ***in rooms where there are liquid fuel appliances with continuous or intermittent operation that draw the combustion air from the room they are installed in;***
- ***in rooms where there are B-type gas heating appliances, with or without domestic hot water production and interconnecting rooms;***
- ***where another heating appliance is installed without an independent air flow.***

It is forbidden to place the product in an explosive atmosphere.

The air inlet must also:

- be protected with a grid, metal mesh, etc. without reducing the net section.
- Be positioned in such a way so as not to be obstructed.
- Allow maintenance to be performed.
- Be directly interconnected with the room where the product is installed.
- In the case of ducting, up to 3.5 linear metres, increase the cross-section by about 5%, whereas for longer ducts, increase it by 15%.

Remember that the ventilation grilles always feature an indication of the useful cross-section in cm^2 on one side. When choosing the grille and size of the hole, check that the useful section of the grille is larger or equal to the section required by the company for product operation.

IMPORTANT!
The air flow can also be drawn from an adjacent room to that of the room where the product is installed, provided the air can flow freely through permanent openings interconnected with the outside; air inlets connected to thermal units, garages, kitchens or bathrooms must be avoided.

BOILER ROOM

Check that the room meets the requirements and provisions of the standards in force. There must also be a flow of at least enough air in the room for normal combustion. Vents must be installed in the walls of the room that meet the following requirements:

- Increase the cross-section by at least 6 cm^2 for each 1 kW The minimum cross-section of the opening must not, however, measure less than 100 cm The cross-section can also be calculated using the following equation:
  $S = K * Q \geq 100\ cm^2$
  Where "S" is in cm^2, "Q" in kW, "K" = 6 cm^2/kW
- The opening must be located at the base of an external wall, preferably opposite the one with the outlet for combusted gases.

Heat-sensitive or flammable objects cannot be placed near the product. Keep such objects at a minimum distance of 80 cm from the outermost point of the product.

2-INSTALLATION INSTRUCTIONS

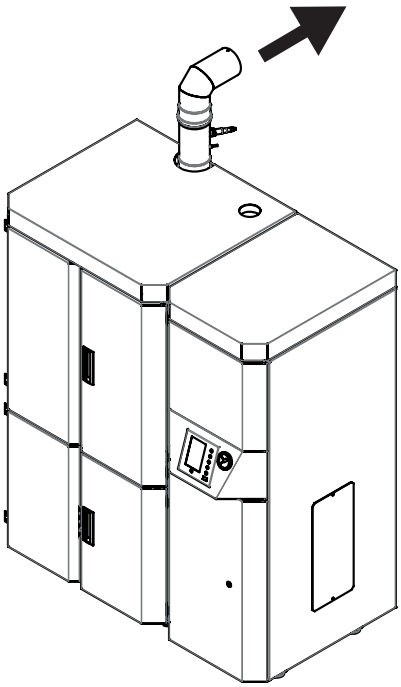
CONNECTION OF THE SMOKE EXHAUST DUCT

When making the hole for the passage of the smoke discharge pipe, it is necessary to take into account the possible presence of flammable materials. If the hole has to be in a wall made of wood or other thermolabile material, **THE INSTALLER MUST** first set up the relative wall fitting (diameter 13 cm minimum) and insulate the pipe of the product passes with appropriate insulating material (1.3 - 5 cm thick with minimum heat conductivity of 0.07 W/m°K).

The same minimum distance must be applied if the pipe of the product must pass through vertical or horizontal sections near the thermolabile wall.

It is recommended to use an insulated double-wall pipe in external sections in order to prevent condensation from forming.

The combustion chamber works in negative pressure.



SMOKE OUTLET

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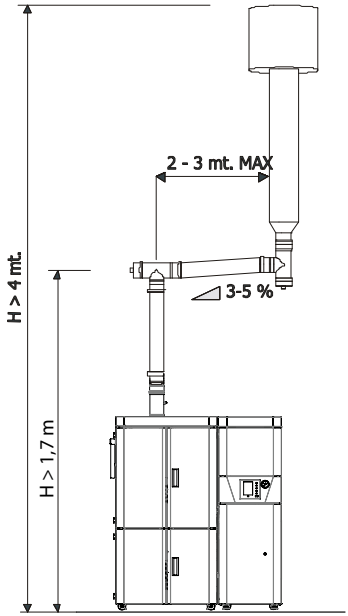
2-INSTALLATION INSTRUCTIONS

Always use pipes and fittings with appropriate seals that guarantee tightness.
It must be possible to inspect all sections of the flue duct and they must be removable for periodic internal cleaning (T-fitting with inspection hole).
Position the product considering all the above requirements and instructions.

IMPORTANT!
The connection between the appliance and chimney must meet these conditions:

- ***the smoke duct must be at least category T200 (or higher if required by the smoke temperature of the appliance) and P1-type (airtight).***
- ***All bends at 90° (max. 3) of the fume outlet duct must, if possible, use T-shaped fittings with inspection points. (See pellet product accessories).***
- ***It is strictly forbidden to fit a mesh at the end of the exhaust pipe as it could cause the product to malfunction (due to clogging).***
- ***It is forbidden to use counter-sloping pipes.***
- ***The horizontal section of the smoke duct must not be longer than 2-3 m.***
- ***It is also recommended not to exceed 6 metres in length with the pipe Ø 100 mm.***
- ***The smoke duct must not cross rooms in which it is forbidden to install combustion appliances.***



EXAMPLE OF PELLET STOVE INSTALLATION

2-INSTALLATION INSTRUCTIONS

CONNECTION TO THE CHIMNEY

The chimney is the fundamental element for smoke expulsion and must therefore comply with the following requirements:

- be waterproof and thermally insulated.
- Be made of suitable materials that resist mechanical stress over time, heat, the effects of the combustion products and any possible condensation.
- Have a vertical set-up with deviations from the axis of no more than 45° and free of bottlenecks.
- Must be suitable for the specific operating conditions of the product and have the CE marking (EN1856-1, EN1443).
- Must be adequately sized for the draught/smoke expulsion requirements that are necessary for the product to operate correctly (EN13384-1).
- The internal section is preferably circular.
- In the case of a pre-existing product that has been used, it must be cleaned.
- The chimney must not be shared with other appliances.

The chimney is fundamental for correct operation and safety of your product.

Below are certain rules on correct installation. Any alternative configurations must be suitably sized in accordance with the general method of calculation of UNI EN 13384-1.

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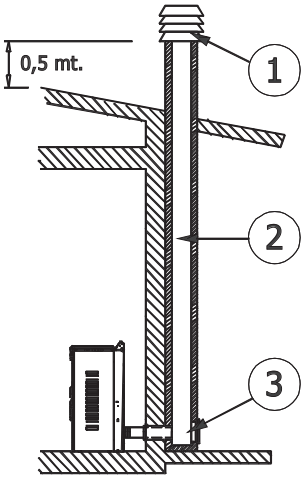
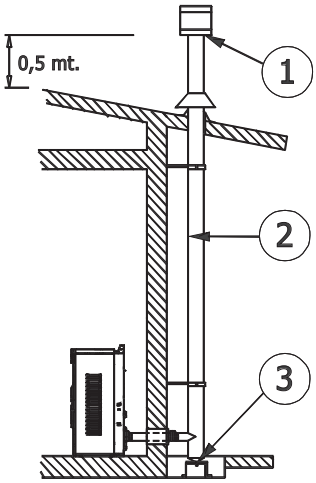
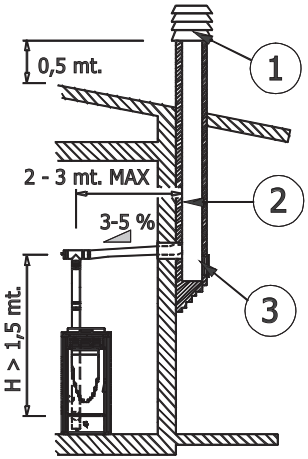
2-INSTALLATION INSTRUCTIONS

CONNECTIONS

CONNECTION TO THE CHIMNEY	CONNECTION TO AN EXTERNAL DUCT WITH INSULATED OR DOUBLE-WALL PIPE	CONNECTION TO THE CHIMNEY
The inside of the chimney should measure no more than 20x20 cm or 20 cm in diameter; in the case of a larger chimney, or a chimney in poor condition (e.g. with cracks, insufficient insulation, etc.), it is advisable to insert a stainless steel pipe of suitable width that extends from the base to the very top of the chimney.	The inside of the external duct must measure a minimum of 15x15 cm, or 15 cm in diameter, and a maximum of 20x20 cm, or 20 cm in diameter. Only stainless steel insulated (double-wall) pipes must be used, which are smooth on the inside and fixed to the wall. Flexible stainless steel pipes must not be used.	The connection between the product and the chimney or the smoke duct must not have an inclination that is less than 3% in the horizontal sections, which must have a maximum overall length of 2/3 m. The vertical section between one T-fitting and another (angle) must not be less than 1.5 m.
		

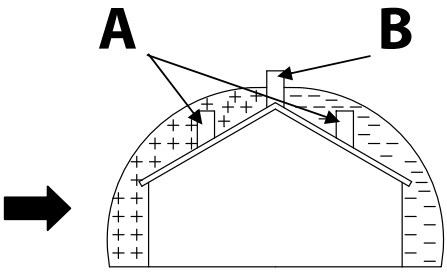
1) WINDPROOF CHIMNEYPOT 2) CHIMNEY 3) INSPECTION

- ***Use adequate instruments to verify that there is a minimum draught of 5 Pa.***
- ***Set-up an inspection hole at the bottom of the chimney to perform periodic checks and cleaning, which must be done annually.***
- ***The connection to the chimney must be sealed and the fittings and pipes recommended by us must be used (CE marked in accordance with EN1856-2 with the minimum requisites: T200 and P1).***
- ***You must ensure that a windproof chimneypot is installed in accordance with the regulations in force.***
- ***This type of connection guarantees smoke expulsion even in the event of a temporary power cut.***

2-INSTALLATION INSTRUCTIONS

OPERATING PROBLEMS RELATED TO DRAUGHT DEFECTS IN THE CHIMNEY

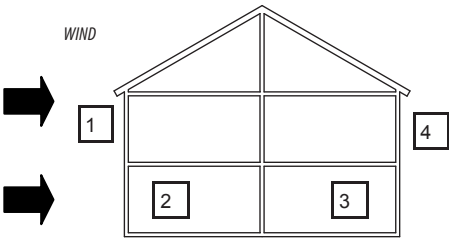
Of all the weather and geographical conditions which affect the operation of a flue pipe (rain, fog, snow, altitude a.s.l., exposure to sunlight, direction of facing), the wind is unquestionably the most decisive. In fact, along with thermal depression caused by the difference in temperature inside and outside of the chimney, there is another type of depression or over-pressure: dynamic pressure caused by the wind. An updraft always increases depression and therefore the draught. A horizontal wind increases depression provided the chimneypot has been installed properly. A downdraft always decreases depression, at times inverting it.



A=LESS FAVOURABLE POINTS
B=MOST FAVOURABLE POINT

Besides the direction and force of the wind, the position of the chimney and the chimneypot with respect to the roof of the building and the surrounding landscape is also important.
The wind also influences the operation of the chimney indirectly by creating high-pressure and low-pressure zones, not only outside the building but inside as well. An internal overpressure can be created in rooms that are directly exposed to the wind (2), which can enhance the draught in the boiler, however, it can be counteracted by the external overpressure if the chimneypot is situated on the side exposed to the wind (1). On the other hand, a dynamic depression can be created in rooms that are opposite the wind direction (3), which competes with the natural thermal depression generated by the chimney, however, this can be compensated for (sometimes) by placing the smoke duct opposite the wind direction (4).

IMPORTANT!
The operation of the product is significantly affected by the flue layout and position.
Hazardous conditions can only be resolved by qualified personnel setting the product appropriately.



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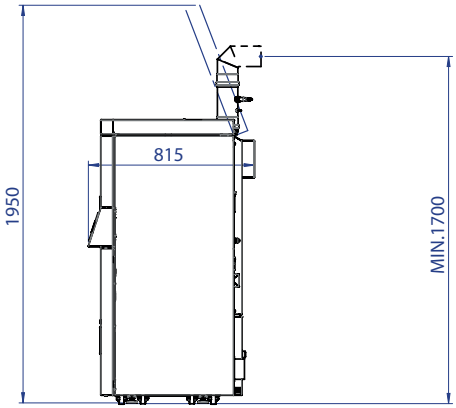
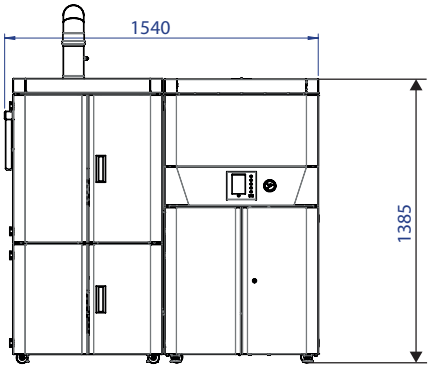
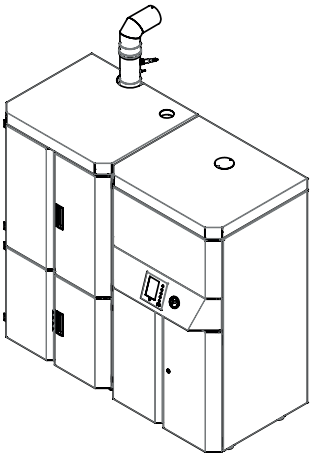
DRAWINGS AND CHARACTERISTICS

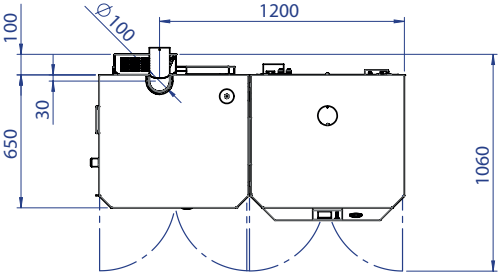
DIMENSIONS OF LOGIKA 25-35 HYDRO (dimensions in mm)

N.B. The 90° bend is not provided with the boiler.





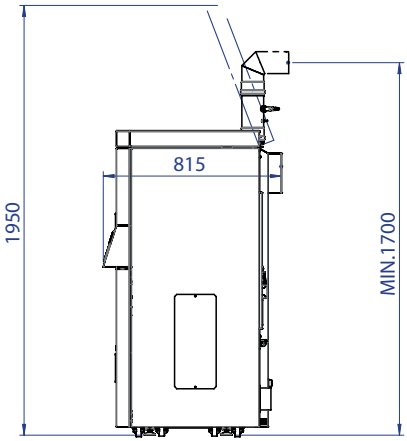


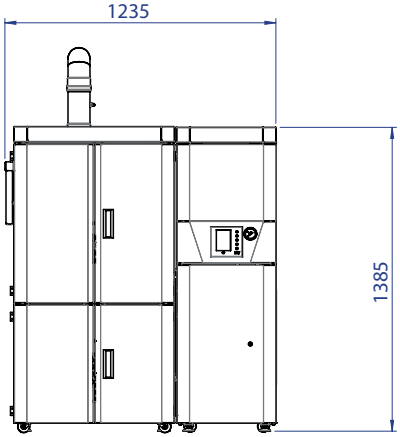


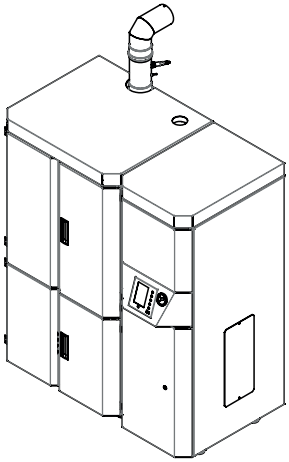
3-DRAWINGS AND TECHNICAL CHARACTERISTICS

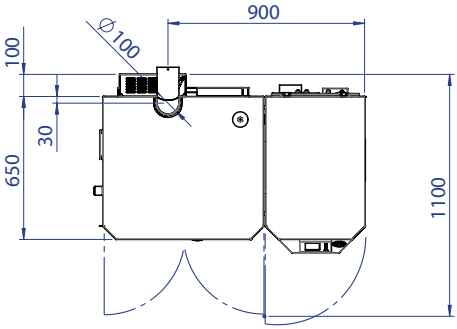
DIMENSIONS OF LOGIKA 25-35 REFILL HYDRO (dimensions in mm)

N.B. The 90° bend is not provided with the boiler.









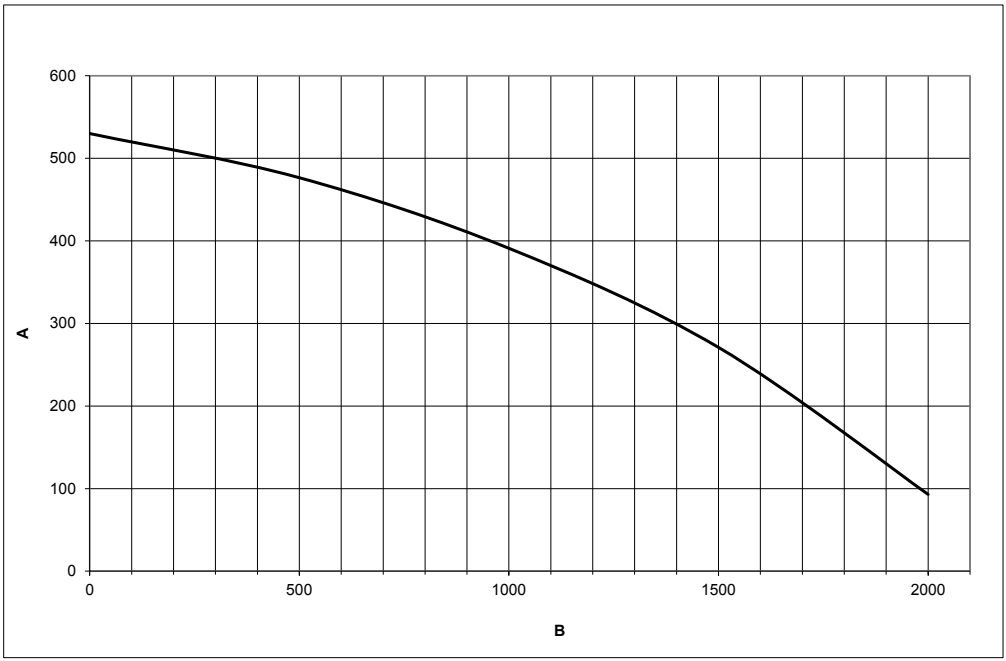
3-DRAWINGS AND TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS	LOGIKA 25	LOGIKA 35
Product class (EN 303-5/2012)	5	5
Rated thermal capacity of the firebox	25.8 kW (22188 kcal/h)	33.8 kW (29068 kcal/h)
Nominal output power:	24.8 kW (20726 kcal/h)	32.1 kW (27606 kcal/h)
Minimum output power	8.3 kW (7138 kcal/h)	8.3 kW (7138 kcal/h)
Efficiency at Max	96.1%	95.0%
Efficiency at Min	91.2%	91.2%
Temperature of exhaust smoke at Max	100°C	120°C
Temperature of exhaust smoke at Min	60°C	60°C
Max configurable temperature	80°C	80°C
Max operating temperature	95°C	95°C
Particles/OGC/Nox (10%O_2)	39 mg/Nm^3 - 1.1 mg/Nm^3 - 163.4 mg/Nm^3	33.1 mg/Nm^3 - 0.3 mg/Nm^3 - 179.5 mg/Nm^3
CO at 10% O_2 at Min and at Max	0.024 - 0.009%	0.024 - 0.006%
CO_2 at Min and at Max	5.89 - 10.2%	5.8 - 10.38%
Recommended draught at Max power	0.10 mbar - 10 Pa	0.10 mbar - 10 Pa
Recommended draught at Min power	0.05 mbar - 5 Pa	0.05 mbar - 5 Pa
Smoke mass	16.4 g/sec	21.0 g/sec
Tank capacity	210 litres (manual feed tank)	210 litres (manual feed tank)
Type of pellet fuel	Pellet diameter 6-8 mm and size 5/30 mm	Pellet diameter 6-8 mm and size 5/30 mm
Pellet hourly consumption	Min ~ 1.5 kg/h* - Max ~ 5.3 kg/h*	Min ~ 1.5 kg/h* - Max ~ 7 kg/h*
Autonomy	At min ~ 100 h* - At max ~ 29 h*	At min ~ 100 h* - At max ~ 22 h*
Heatable volume m^3	518/40 - 592/35 - 691/30**	690/40 - 789/35 - 920/30**
Water content	90 litres	90 litres
Max operating temperature	3 bar - 300 kPa	3 bar - 300 kPa
Combustion air inlet	Ø 80 mm	Ø 80 mm
Smoke outlet	Ø 100 mm	Ø 100 mm
Air outlet	100 cm^2	100 cm^2
Rated electrical power (EN 60335-1)	180 W (Max 960 W)	180 W (Max 960 W)
Supply voltage and frequency	230 Volt / 50 Hz	230 Volt / 50 Hz
Net weight	705 kg (with tank)	705 kg (with tank)
Weight with packaging	725 kg	725 kg

* Data that may vary depending on the type of pellets used.
** Volume that can be heated, according to the power requirement in m^3 (respectively 40-35-30 Kcal/h per m^3)

3-DRAWINGS AND TECHNICAL CHARACTERISTICS

Residual head



A = Residual Head (mbar)
B = Load (l/h)

4 - UNPACKING

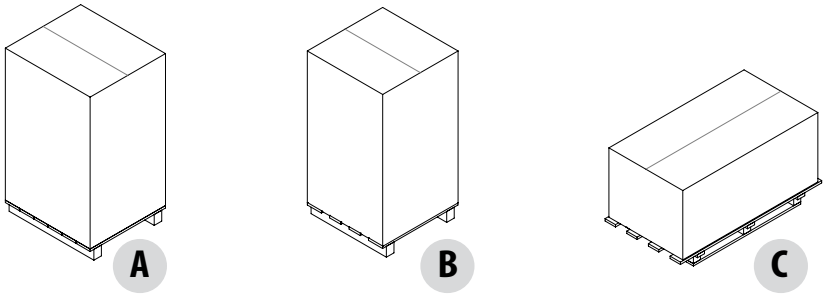
PREPARATION AND UNPACKING

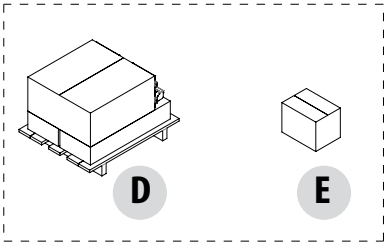
The LOGIKA boiler is delivered inclusive of all if electrical and mechanical components and already tested at the factory:
Install the boiler in the area set aside for it, making sure it conforms to the requirements. The body of the boiler must only ever be carried upright with a trolley. The product must always be moved with care. If possible, unwrap the boiler near the chosen place of installation.
The packaging materials are neither toxic nor harmful, and therefore no particular disposal measures are required.
After removing all the packaging, check that the boiler is complete and not damaged. If in doubt, contact the retailer.

PACKAGING OF THE LOGIKA 25/35 BOILER

The Logika boiler is delivered in three different packages (and with additional packages for accessories), depending on the model:

- **A** - structure of the boiler (1 pack)
- **B** - tank (1 pack)
- **C** - casing of the boiler/tank (1 pack)





Easyclean kit accessories (on request)

- **D** - automatic ash outlet (1 pack)
- **E** - automatic turbolator (1 pack)

The following documents are provided in the package:

- Plant booklet
- Instruction booklet
- Annex G - Technical test report for thermal plant of less than 35 kW.
- Warranty

4 - UNPACKING

UNPACKING THE STRUCTURE OF THE BOILER

TOOLS: 10 mm face or box spanner

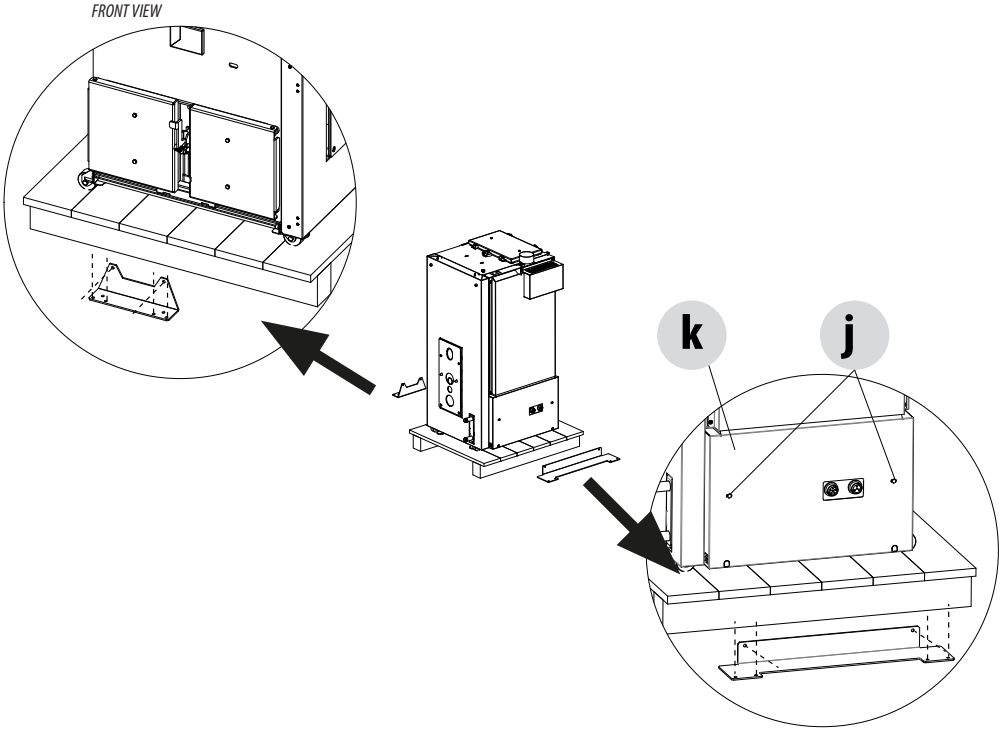


FIGURE 1 - STRUCTURE OF LOGIKA 25-35 BOILER
REMOVAL SCREWS OF PACKAGE

Open the package and remove the two front and back brackets, removing the two screws between each bracket and the boiler and the two screws that fasten the bracket to the pallet.

Remove the rear bracket, undoing the screws "**j**" and taking off panel "**k**" to access the area more easily.

Put the panel "**k**" back in place when you have done.

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4 - UNPACKING

UNPACKING THE TANK

Open the package and remove the two screws between the bracket and the boiler and the two screws that fasten the bracket to the pallet.

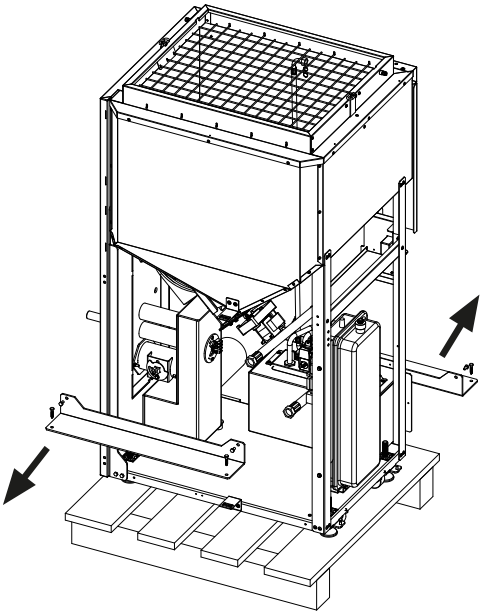

FIGURE 2 - LOGIKA 25-35 BOILER MANUAL TANK REMOVAL SCREWS OF PACKAGE

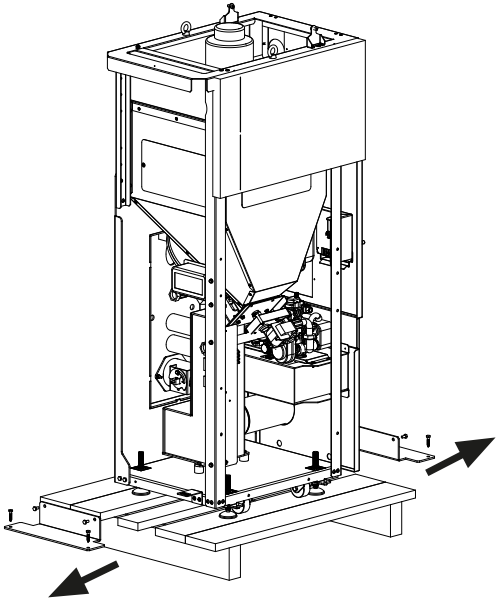

FIGURE 2 - LOGIKA 25-35 BOILER REFILL TANK REMOVAL SCREWS OF PACKAGE

UNPACKING THE COMPLETE CASING

The package of the casing contains the following material:

- **BOILER AESTHETICS UNIT**

COMPLETE RIGHT-HAND DOOR (1)
COMPLETE RH PANEL (6)
COMPLETE LEFT-HAND DOOR (2)
COMPLETE LEFT-HAND PANEL (5)
COMPLETE BOTTOM RIGHT-HAND DOOR (3)
COMPLETE LEFT-HAND DOOR (4)
COMPLETE TOP DOOR (COVER) (7)

- **MANUAL TANK AESTHETICS UNIT**

COMPLETE RIGHT-HAND PANEL (12)
COMPLETE LEFT-HAND PANEL (11)
COMPLETE LEFT-HAND DOOR (9)
COMPLETE RIGHT-HAND DOOR (8)
BOTTOM REAR PROTECTION (14)
FRONT PANEL (10)

- **MANUAL LEVER FOR CLEANING TURBOLATORS**

4 - UNPACKING

EASYCLEAN KIT PACKAGE

AUTOMATIC TURBOLATOR KIT

ACTUATOR
FEEDER
PLASTIC CAP

AUTOMATIC ASH OUTLET KIT

- **EASYCLEAN ASH OUTLET KIT**

ASH DOOR SUPPORT 2 X PIECES (see piece "a" page 34)
MICROSWITCH SUPPORT BRACKET 1 X PIECE (see piece page 35)
CENTRAL DOOR SUPPORT 1 X PIECE (see piece "b" page 34)
LOCK CONNECTION 2 X PIECES (see piece "y" page 34)
AUGER ASSEMBLY KIT 2 X PIECES (see page 27)
ASH TRAY ASSEMBLY 2 X PIECES (see piece "c" page 34)
TROLLEY DRAWER ASSEMBLY 1 X PIECE (see page 63)

- **BOLTS AND SCREWS KIT**

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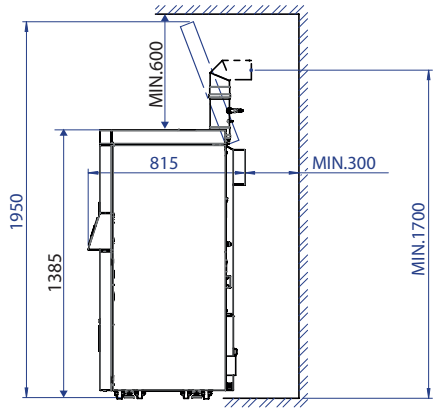
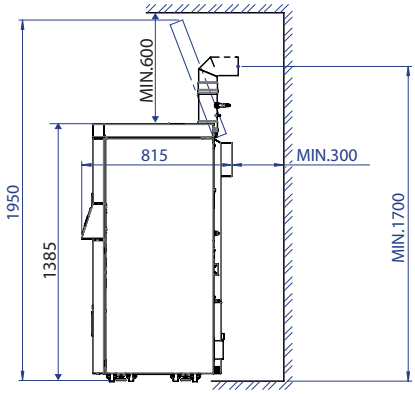
5 - POSITIONING

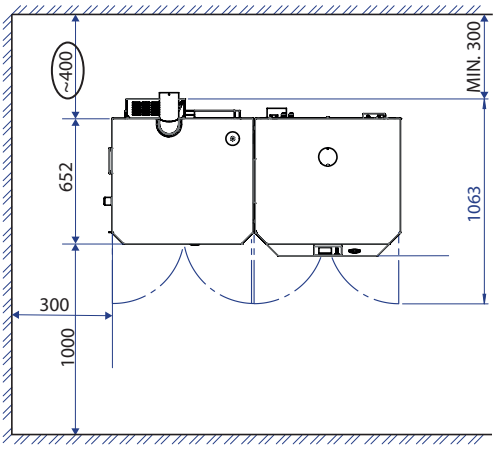
REQUIREMENTS FOR INSTALLATION OF THE PLANT - POSITIONING

The most important thing to do before installation of the LOGIKA boiler is to set aside a suitable area that meets the minimum requirements for installation.

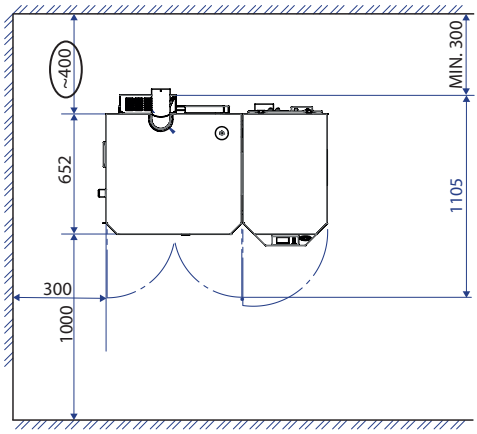
- **the minimum clearance in front of the product** for the purpose of cleaning, maintenance, etc. must be **1000 mm**;
- the minimum permissible distance between the back of the product and a wall must be **400 mm**;
- the minimum distance between the top of the product and the ceiling must be **600 mm** to ensure easy access to the heat exchanger for the purpose of cleaning and maintenance (e.g. for removing ash);
- the minimum clearance between the product and the wall (side) must be **300 mm**.







MINIMUM REQUIREMENTS FOR LOGIKA BOILER AND MANUAL TANK

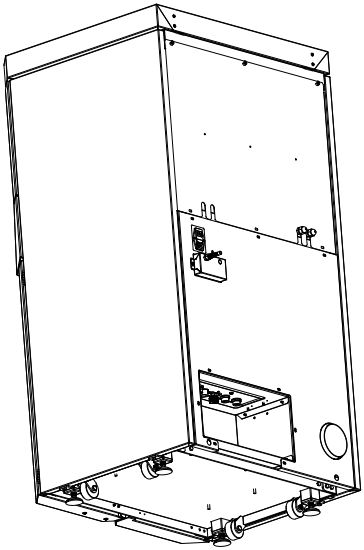


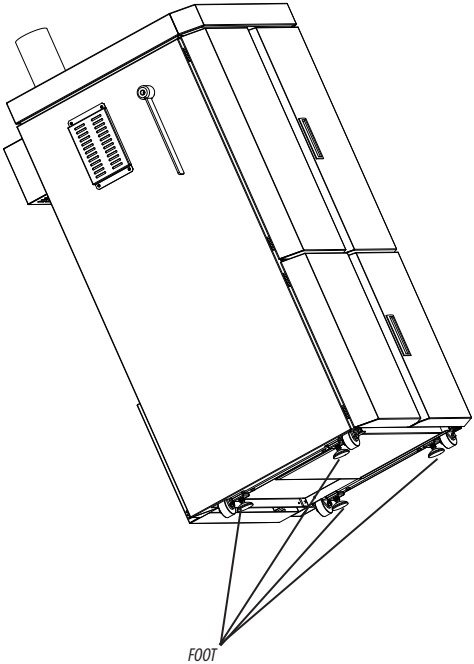
MINIMUM REQUIREMENTS FOR LOGIKA BOILER AND REFILL TANK

5 - POSITIONING

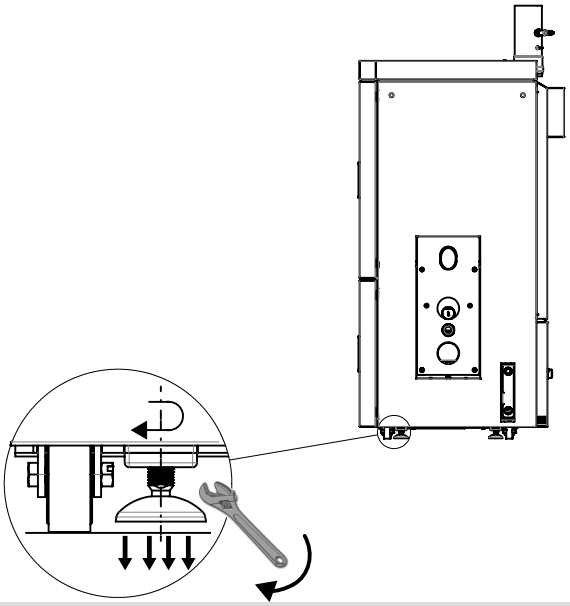
FOOT ADJUSTMENT

Adjustable feet are mounted at the point of the wheels on the base of the boiler and tank.
It is possible to unscrew the foot with a spanner to stabilise the structure.





1. TURN THE FEET CLOCKWISE TO LOWER THE PRODUCT.
2. TURN THE FEET ANTI-CLOCKWISE TO RAISE THE PRODUCT.

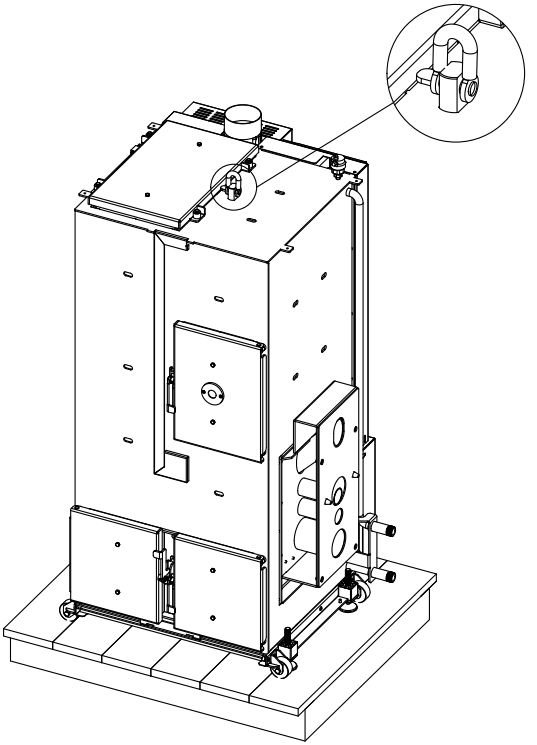


6 - INSTALLATION AND ASSEMBLY OF BOILER

Instructions on how to install the structure of the LOGIKA boiler:
a. Positioning on the ground (lifting or slide).
b. Put the tank and boiler in the room where they are to be installed (but NOT in their definitive position).
c. Check and install any additional kits (automatic turbolators/automatic ash outlet).
d. Assembly of the right-hand side of the boiler.
e. Definitive installation with reference to the diagram showing the minimum requirements.
f. Assemble probe pipe Ø 100 at boiler outlet.
g. Assemble the lambda probe and connect it to the boiler connector.
h. Connect the pressure gauge pipe to the pressure outlet.

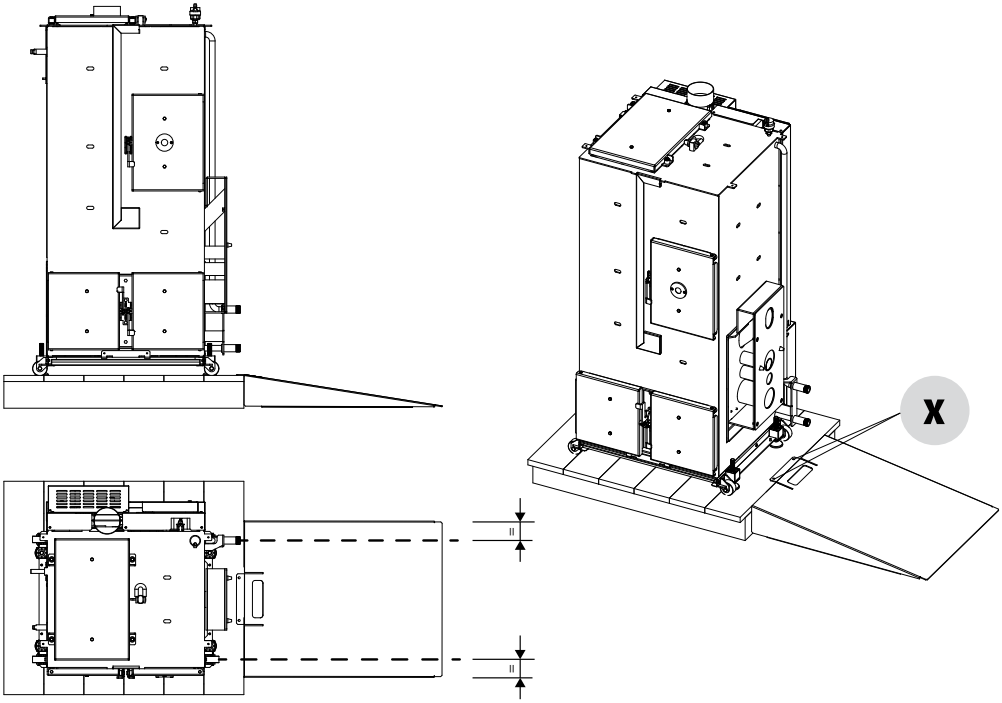
a) Positioning on the ground (lifting or slide).

After unpacking the structure it is possible to move the boiler in two ways:
1) using the lifting hook on the boiler and a hoister.



WEIGHT ABOUT 500 KG

2) using the slide (sold as an accessory).
Put the slide against the pallet and fasten it on with the two screws at pos. x in the figure, aligning it with the wheels of the boiler. The slide can be fastened onto the pallet with the screws removed from the brackets that previously held the boiler on the pallet.



ATTENTION!
The support surface of the slide must be made of cement or at least be of an equivalent consistency.

b) Put the boiler in the installation area and position it in accordance with the definitive measurements recommended above

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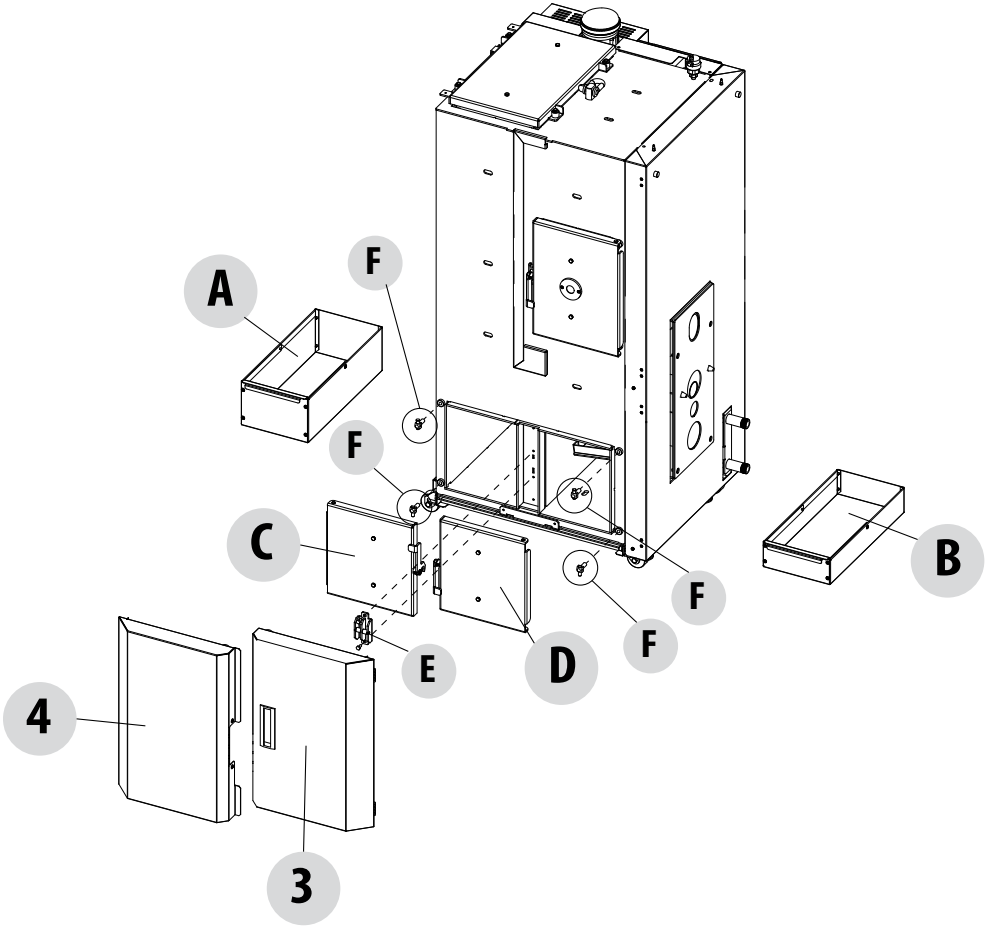
c) Install any additional kits (automatic turbolators and/or automatic ash outlet).

Certain parts have to be removed **in order to install the automatic ash cleaning kit**.
Remove from the boiler structure unit:

- Ash drawer A and B
- Doors C and D
- unit F
- unit E

Remove from the boiler casing unit:

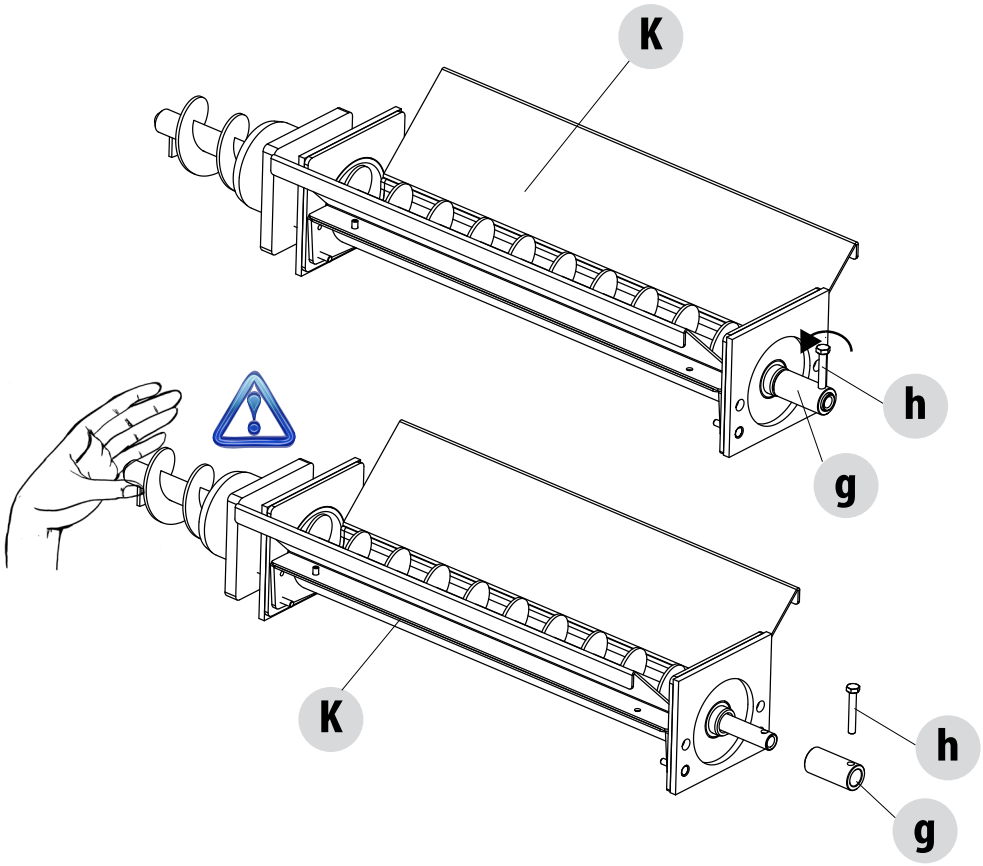
- Doors 3 and 4.



6 - INSTALLATION AND ASSEMBLY OF BOILER

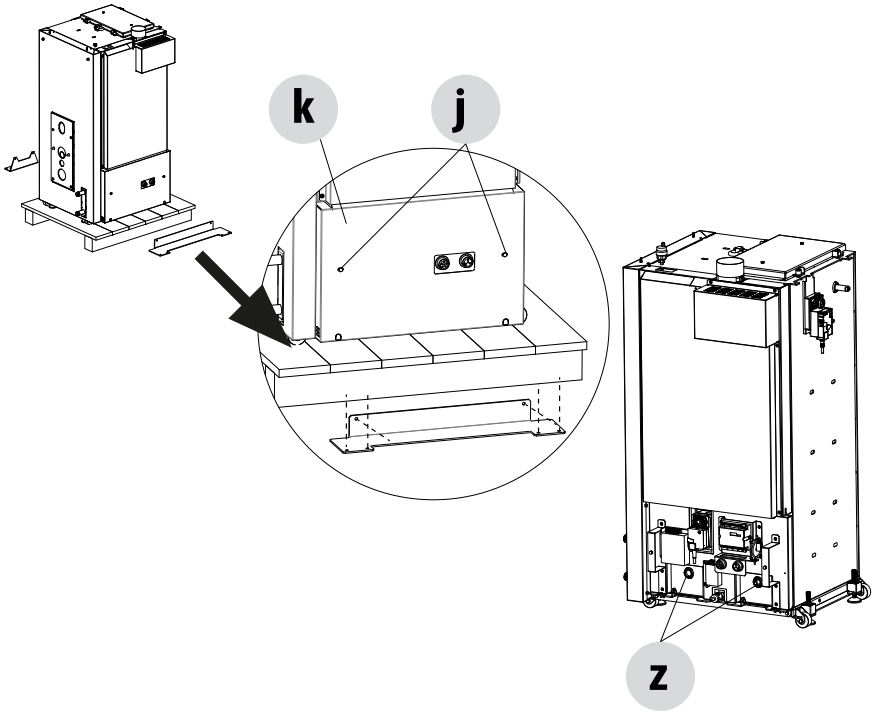
Remove both the augers (**K**) from the package containing the automatic ash cleaning kit. At this point, remove screw "**h**" (spanner 10) and remove carrier "**g**".

Attention!!
The auger is now no longer secured. To move it, hold it at the front with one hand to avoid dropping it.



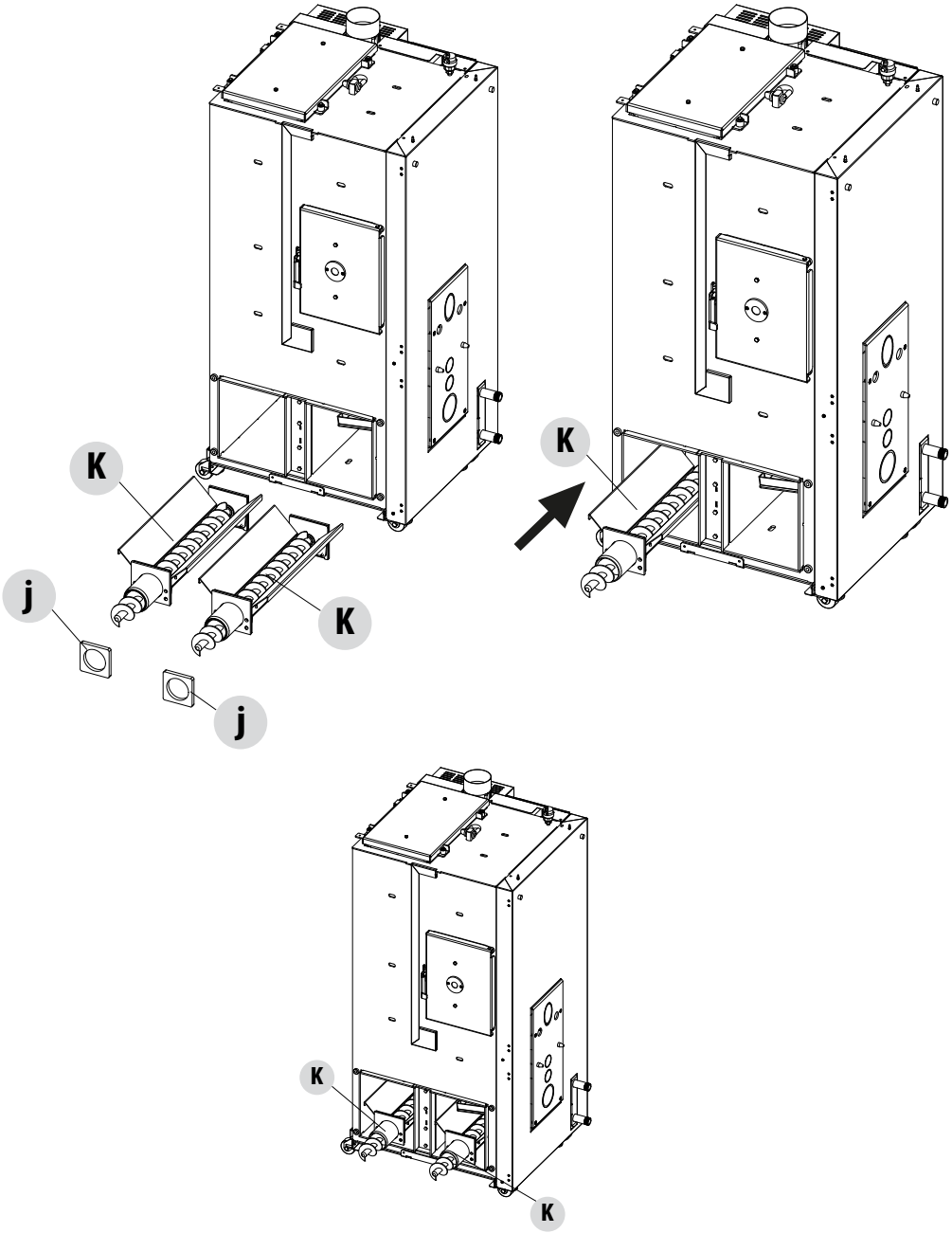
6 - INSTALLATION AND ASSEMBLY OF BOILER

Undo the screws "**j**" to remove panel "**k**" at the back of the boiler.
Remove the two caps "**z**" (using a 25 mm spanner or adjustable pliers).



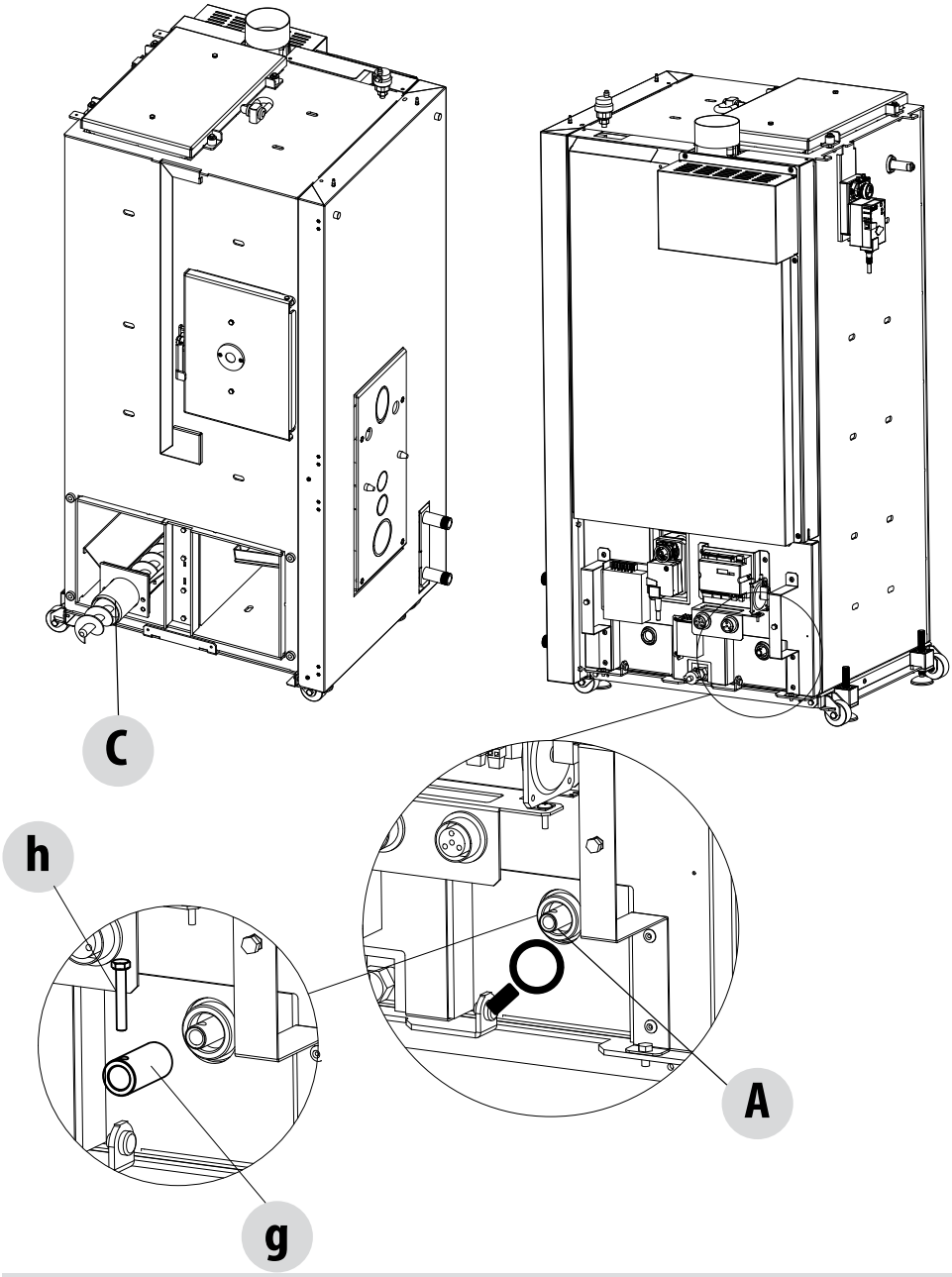
6 - INSTALLATION AND ASSEMBLY OF BOILER

Insert both the auger units (**K**), making sure the shaft of the auger does not slide at the front. Remove the two gaskets "**j**" and put them in again after assembling the doors "**c**" (see page 34).

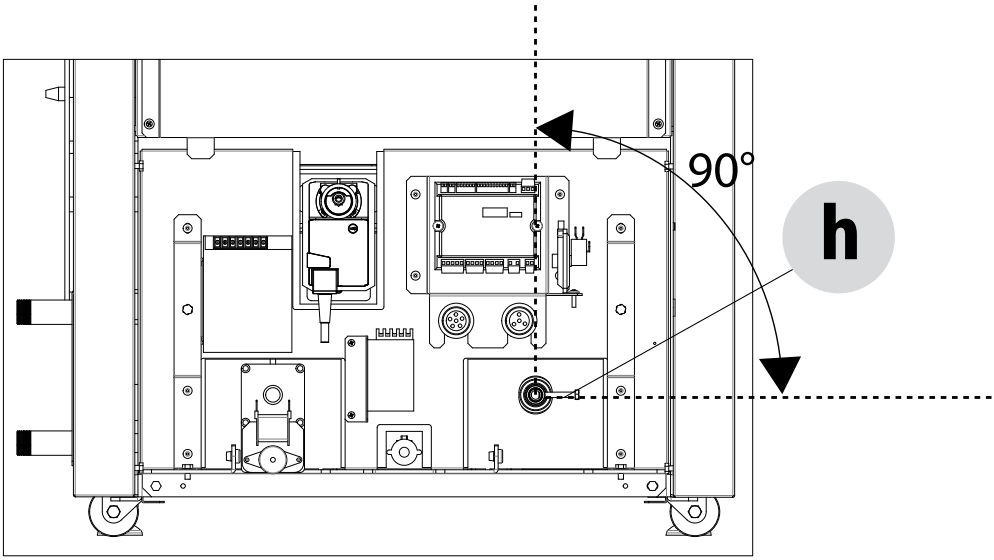


6 - INSTALLATION AND ASSEMBLY OF BOILER

It is necessary to put the auger all the way into the structure of the boiler (see figure 1) in order to prevent the shaft of the auger from coming out of the hole at the back. Next, secure the shaft by re-inserting the carrier "**g**" and the screw "**h**" which were removed before the auger was inserted in the structure of the boiler.



Turn the auger by hand to move the screw "**h**" to a 90 degree angle to the vertical.



Repeat this operation with the other auger.

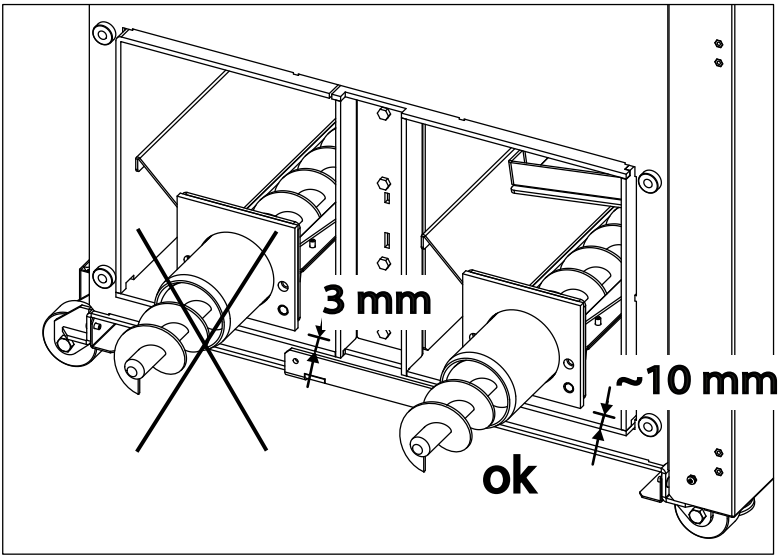


FIG. 1 - APPROX. 10 MM – CORRECT POSITIONING OF THE FEED SCREW

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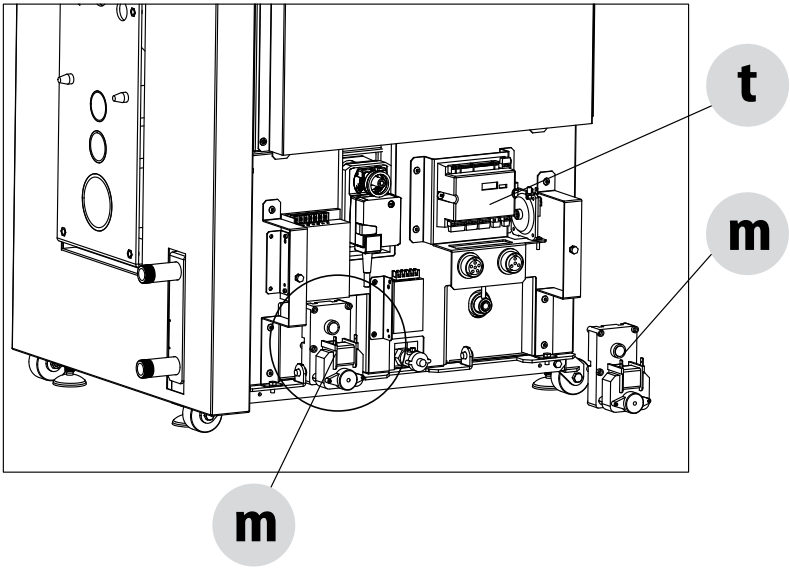
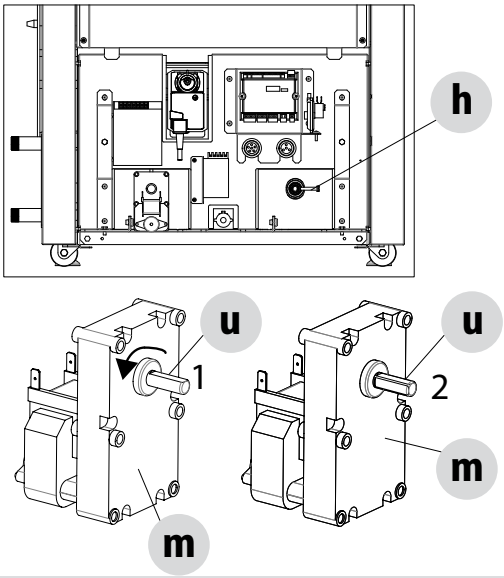
6 - INSTALLATION AND ASSEMBLY OF BOILER

Take the geared motors "**m**" out of the package of the trolley drawer.

Make sure that the screw is securely fastened on the ground side (see detail "u") of the shaft of the geared motor, to prevent it from turning on empty.



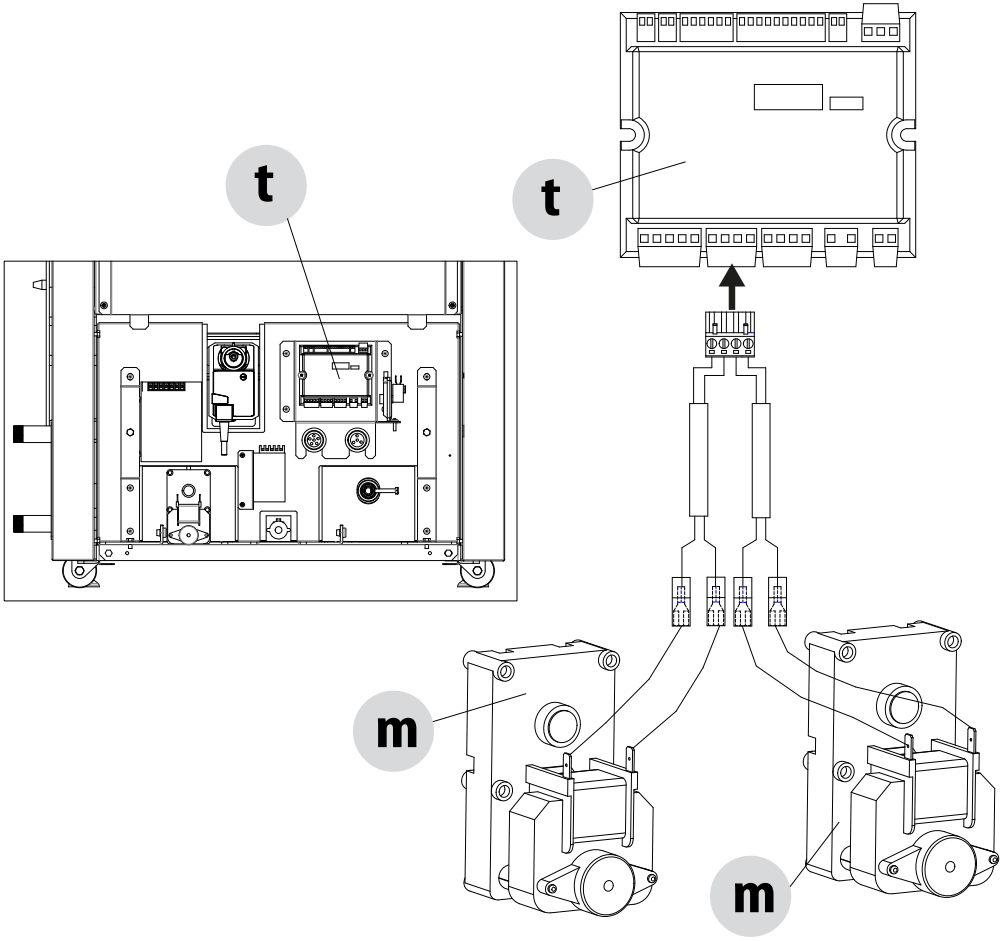
Connect an electrical cable with 6.3x0.8 female faston terminals and faston covers to the geared motor. Connect the other end of the cable with Suko plug to the mains socket. The flat side of the shaft of the geared motor should be perpendicular with the screw "h" (pos. 2) of the carrier. Next, after disconnecting the cable from the geared motor, insert the shaft in the protruding part of the auger. Tighten the screw "h" (spanner 10).



6 - INSTALLATION AND ASSEMBLY OF BOILER

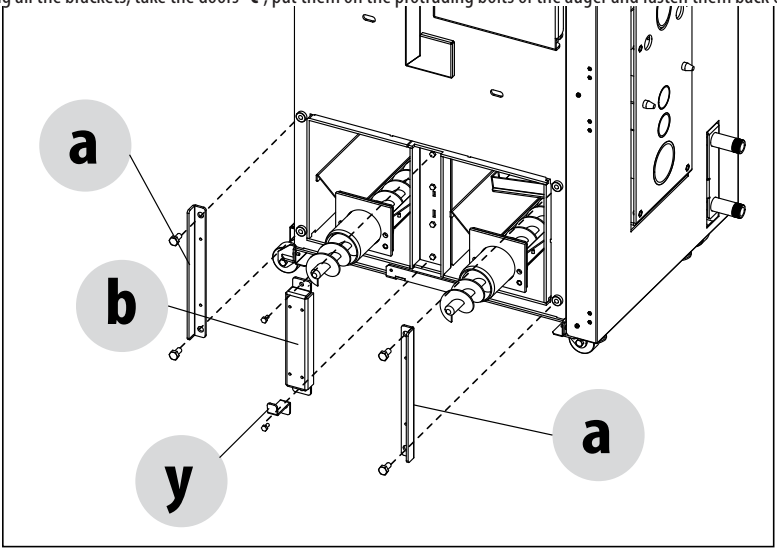
In the accessories kit there is also a cable for connecting the geared motors "**m**". It is necessary to insert the terminal in the remote board "**t**" and the fastons in the geared motor "**m**".

Caution!
While the terminal for the remote board "t" has a set position, the two cables that lead to the geared motor can be connected either left or right.

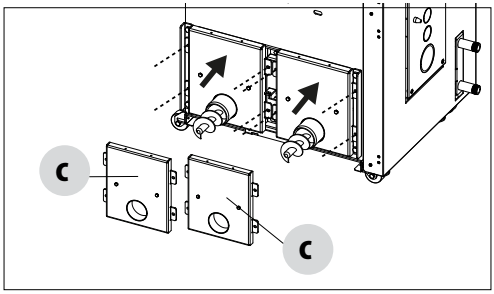


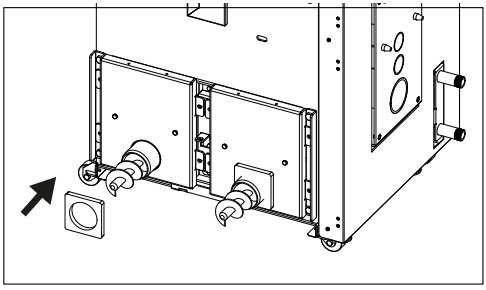
6 - INSTALLATION AND ASSEMBLY OF BOILER

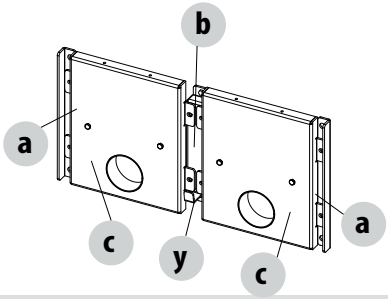
The two doors and brackets in the Easyclean kit are pre-assembled in the interest of ease. They need to be disassembled, however, to make them easier to install. Take the two side brackets "**a**" and fasten them onto the structure of the boiler with the screws provided in the kit using the top and bottom holes (spanner 17).
Take the central support "**b**" and fitting "**y**" and fasten these onto the structure of the boiler.
After assembling all the brackets, take the doors "**c**", put them on the protruding bolts of the auger and fasten them back on the brackets



applying slight pressure towards the boiler in order to counteract the resistance of the gasket.
Take the gaskets "**j**" and insert them in the auger to the back of the doors.



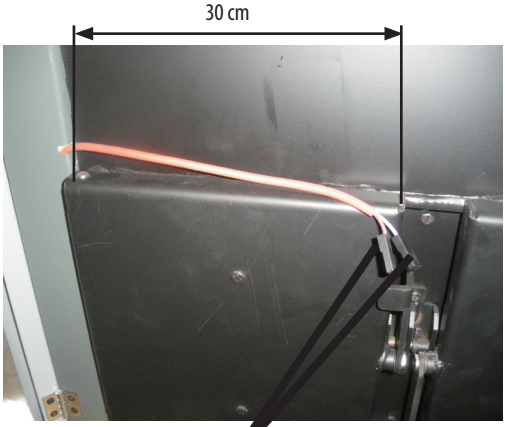




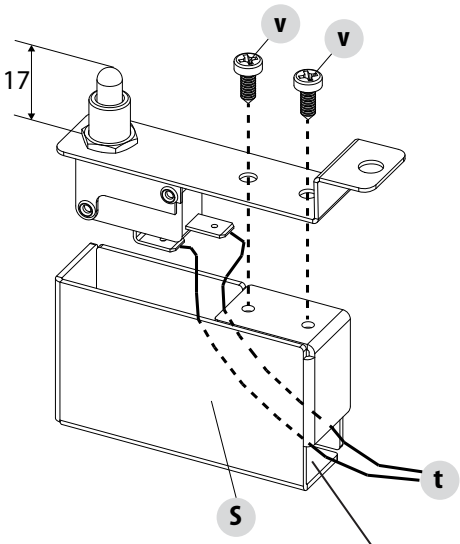
6 - INSTALLATION AND ASSEMBLY OF BOILER

Pull the cable about 30 cm out from the side. Take the micro-switch from the accessory package kit and, before fastening it onto the ash tray, remove the two screws "**v**" and low box "**s**". Feed the cable from the left side of the boiler through the hole in the box "**s**" and connect it to the microswitch. Screw the column "**h**" onto the right-hand hole of the LH door. Assemble the micro-switch and fasten it on with washer and nut. It must be parallel with the structure of the boiler.

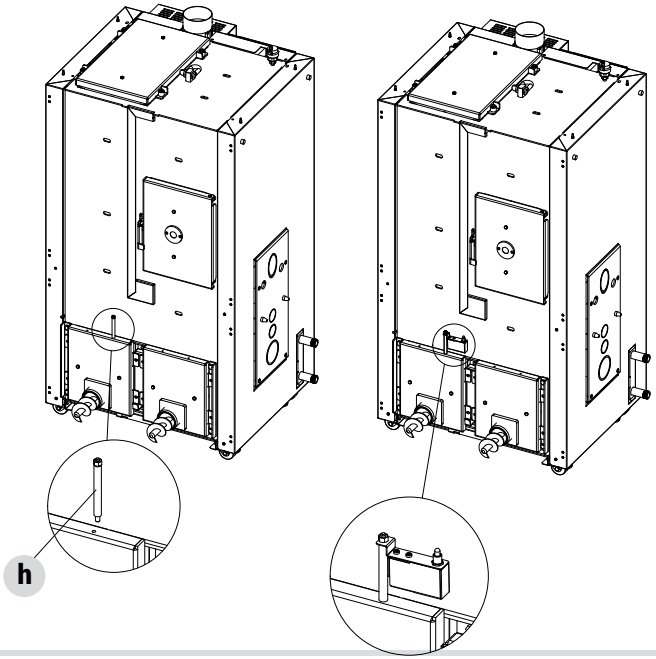
NOTE: This operation can be done when the left-hand side has already been assembled. If the kit is not available, leave the cable in the side.



CONNECTION TERMINALS FOR MICROSWITCH POS.t



HOLE FOR CABLE PASSAGE



FASTENING OF MICROSWITCH TO ASH TRAY

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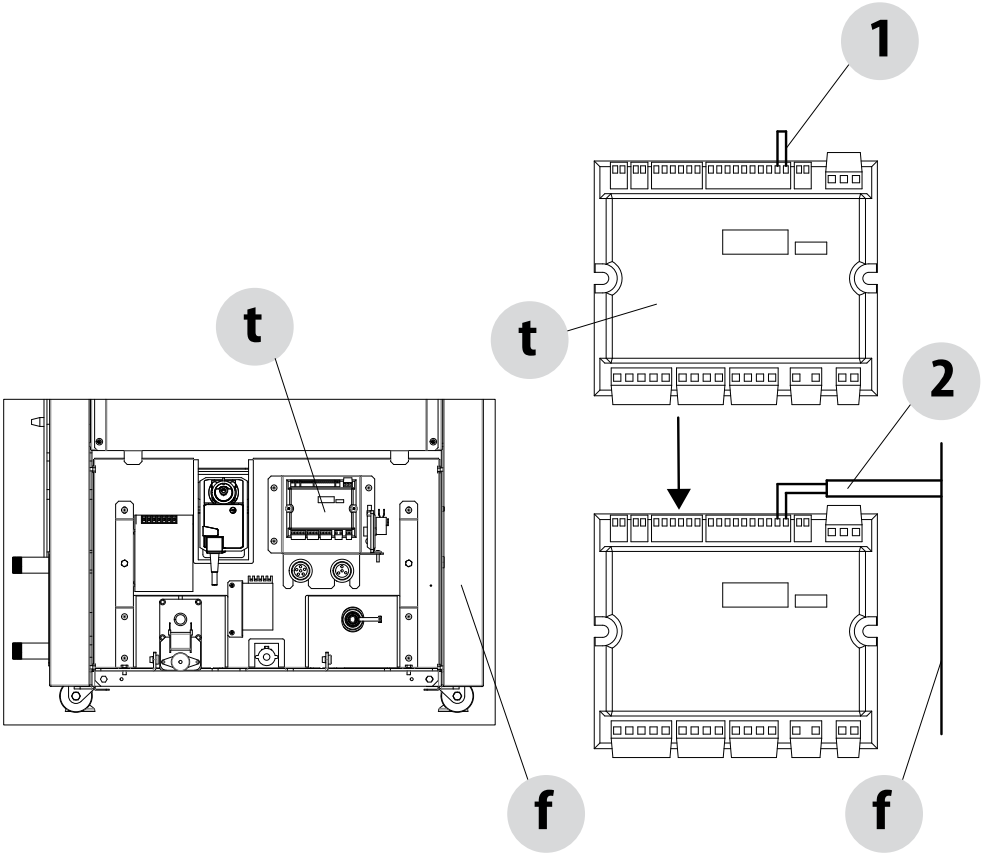
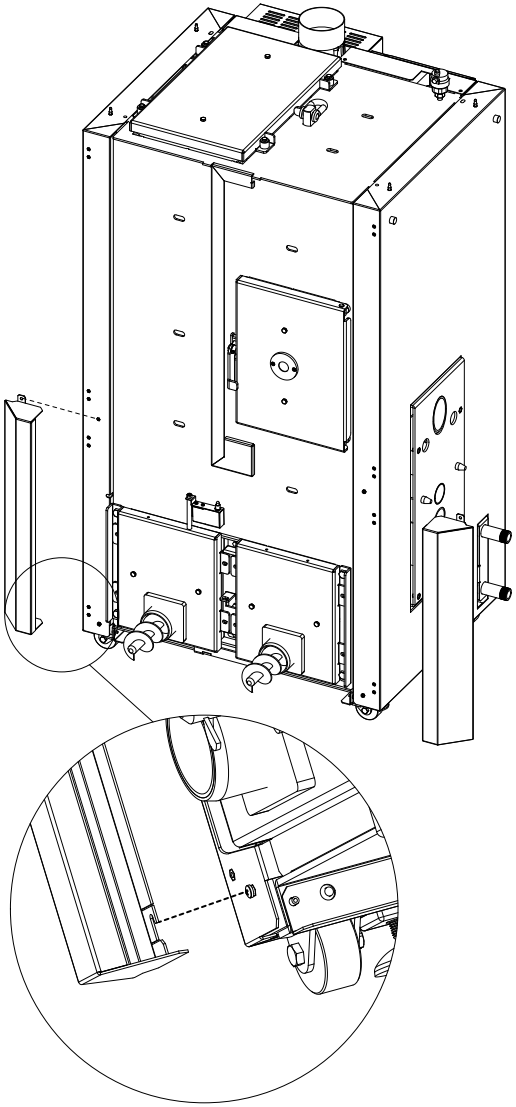
6 - INSTALLATION AND ASSEMBLY OF BOILER

At the back of the boiler, connect the cable from the side to the terminal of the board as shown. The microswitch is now connected.
1 - Remove the bridge.
2 - Insert the cable from side “f”



6 - INSTALLATION AND ASSEMBLY OF BOILER

Take the two columns from the trolley package. Insert the seat at the base of the column with the screw of the boiler. At the top, fasten the column onto the structure with the screw provided.

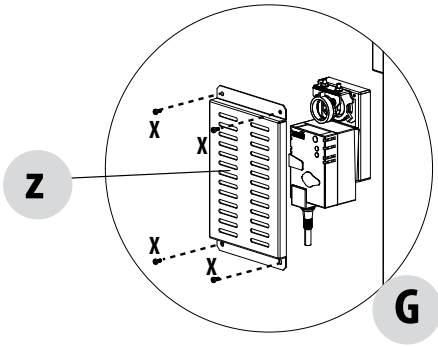


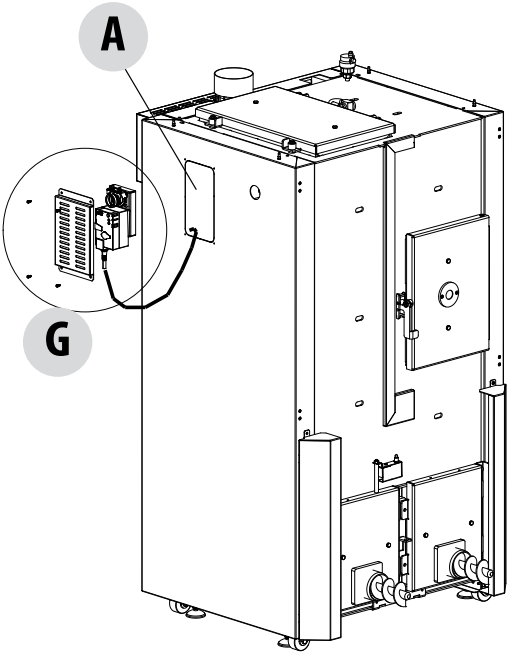
ATTENTION: This operation can be done when both the sides of the boiler are available.

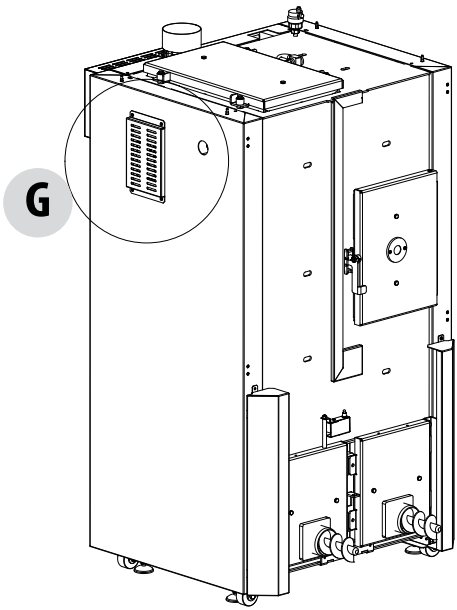
When the additional kit for automatic tubulators is also present.

The operations to be done are:

- Remove the protection "**z**" (detail **G**) from the left-hand side of the boiler, undoing the 4 screws "**x**".
- Knock out the pre-perforated panel "**A**".





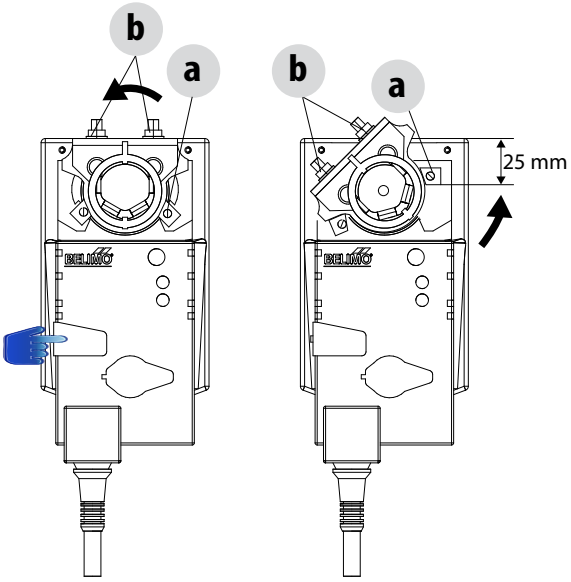


6 - INSTALLATION AND ASSEMBLY OF BOILER

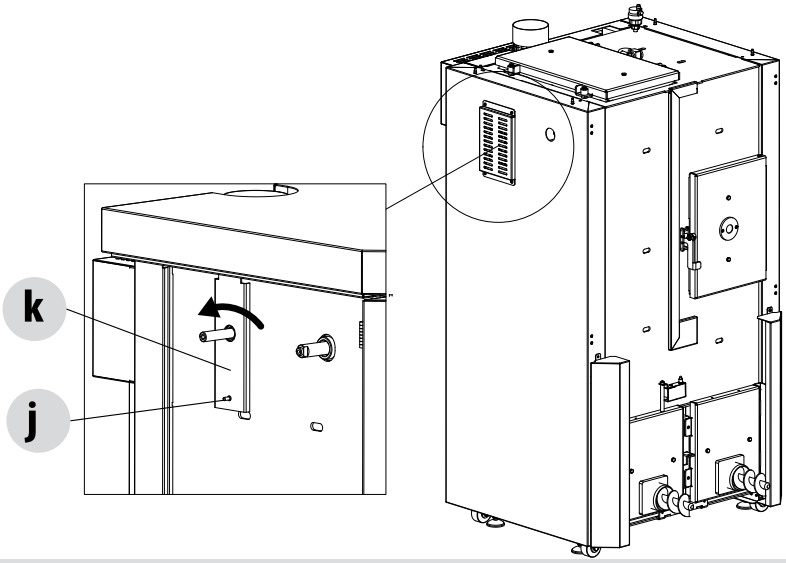
- Calibrate the actuator.

Set up the limit switch before inserting the actuator on the pin of the boiler

1. Press the clutch key and turn the vise anti-clockwise to the end of the scale.
2. Slacken the screw "**a**" and turn the piece anti-clockwise as shown in the drawing until the limit switch is 25 mm above the actuator and then re-close the screw.
3. Slacken also the two bolts "**b**" to facilitate subsequent insertion of the pin of the boiler.



- Turn the pin protruding from the boiler using a hand or adjustable pliers.
- Insert the actuator as far as possible on the bracket "**k**" taking care with insertion on insert "**j**".



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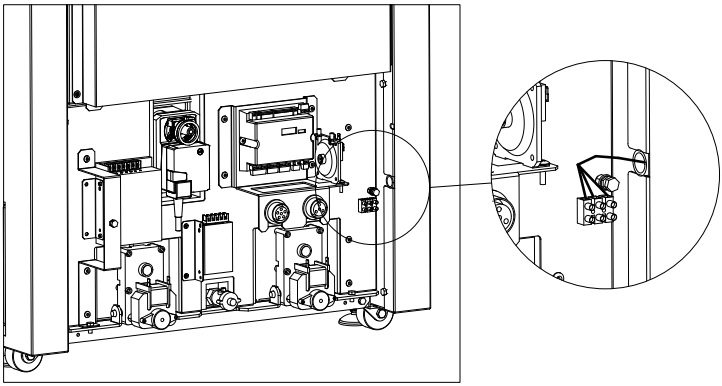
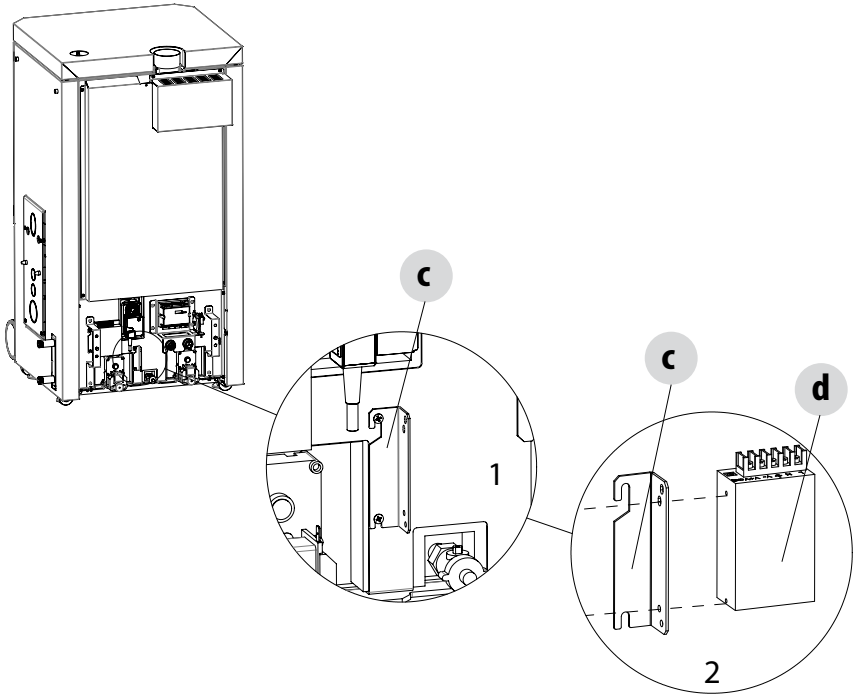
6 - INSTALLATION AND ASSEMBLY OF BOILER

- Insert the cable from the actuator in the duct on the left-hand panel of the boiler coating at the point of the actuator installation hole.
- This cable comes out from the rear bottom part of the boiler. Take the three red, white and black wires and connect them to the terminal with reference to the colours of the other three wires already in place.



- Remove modular support "c" from the back of the boiler (lift and slide out) (point 1 in the figure).
- Take the feeder and screws out of the turbolator kit.

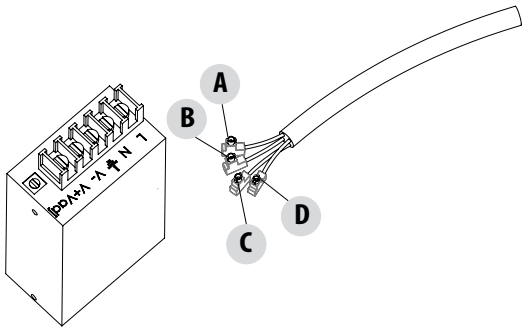


- Fasten the feeder "d" on support "c" without forcing the screws (point 2 in the figure).
- In the electrical wiring locate the sheath containing the four wires with terminals at the ends.

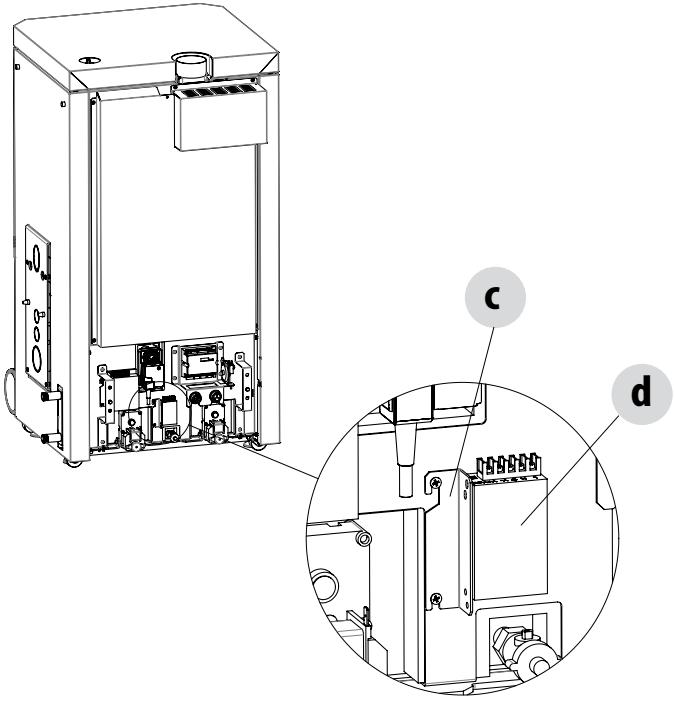
6 - INSTALLATION AND ASSEMBLY OF BOILER

- Remove the terminals and connect the wires to the feeder as shown in the diagram:

A = **black** wire to connect to **V-**
B = **red** wire to **V+**
C = **blue** wire to neutral **N**
D = **brown** wire to **L**



- Reassemble everything in position, putting the support back in its seat (inserting it and pushing it downwards).



- Refasten the protection "**z**".
- Remove the handle for manual cleaning of the turbolators, slackening the screw (with a Phillips screwdriver).
- Put the rubber cap, provided in the automatic turbolator kit, in the hole in the place of the handle.

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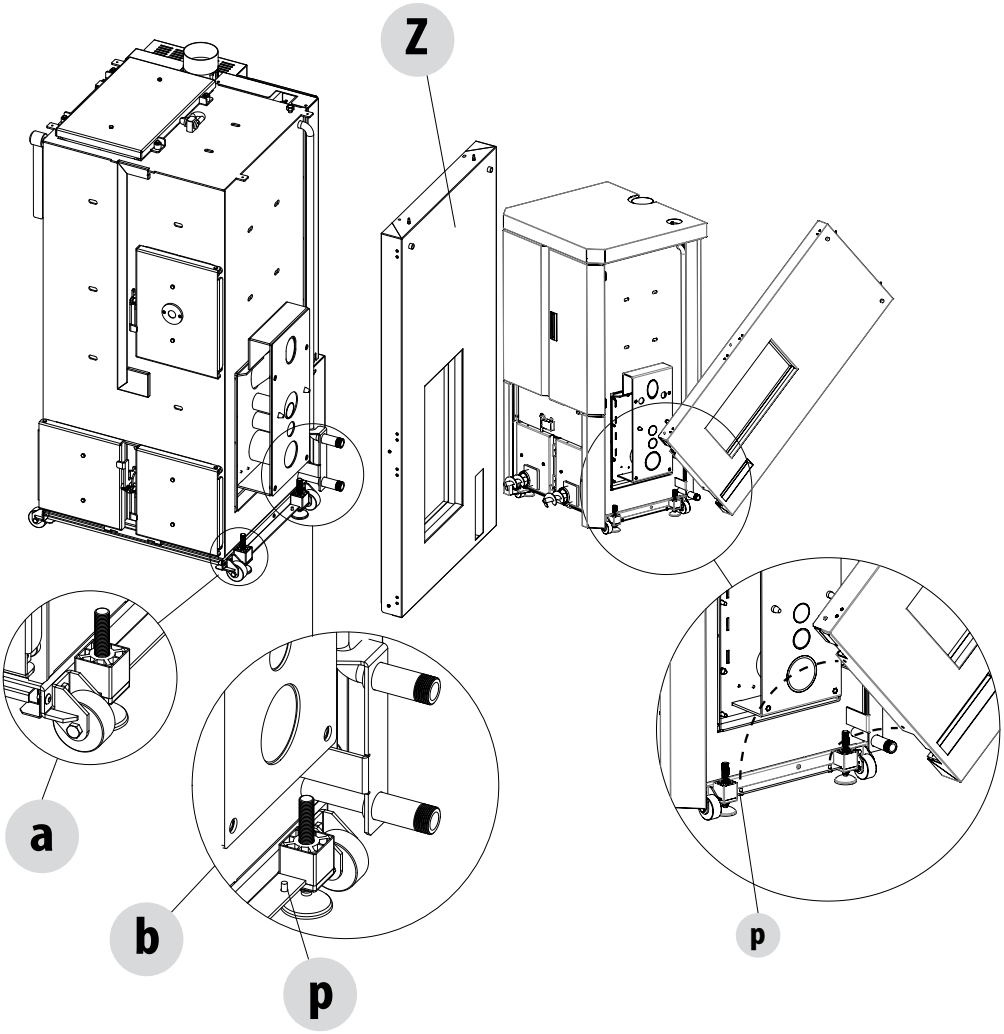
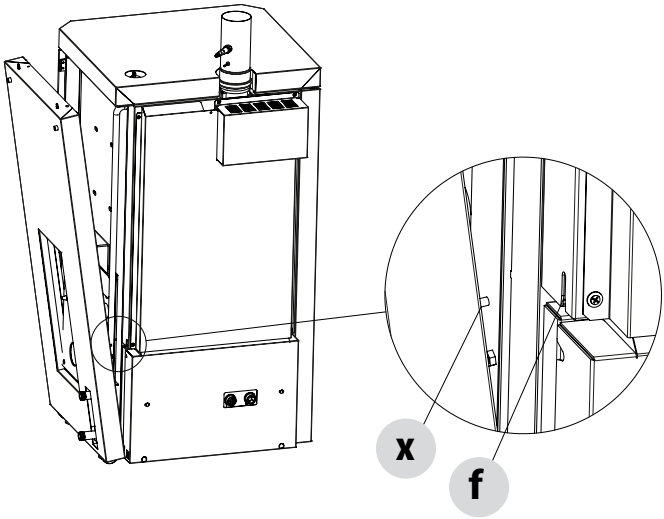
d) assembly of the right-hand side of the boiler (OBLIGATORY before connecting the boiler to the tank).
Take hold of the right-hand side "**Z**" and put it up against the boiler. The side to be used is easily recognisable because it has a hole in the middle.
At the bottom, fit the holes in the side on the pins "**p**" of the boiler.

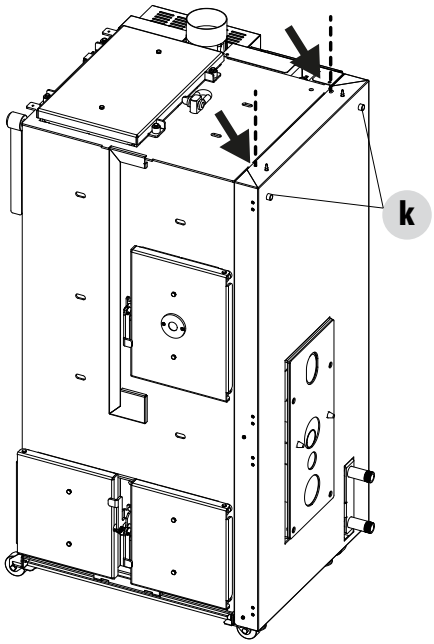


6 - INSTALLATION AND ASSEMBLY OF BOILER

When installing the side of the boiler make sure the pin on side "x" engages in slot "f" at the back of the boiler.
Fasten the panel at the top with the two screws provided.



Assemble the two rubbers "**k**" in the pack of bolts and screws on the manual/refill tank.



e) definitive installation with reference to the diagram showing the minimum requirements.
Refer to the minimum clearances for the choice of model in the boiler installation diagrams.

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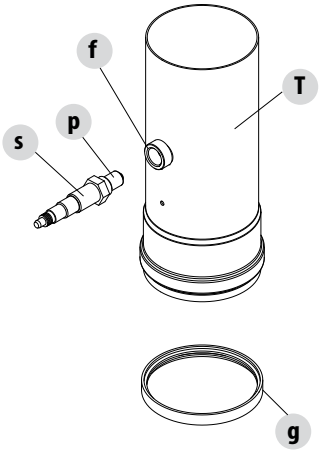
f) assembly of the smoke pipe and lambda probe

Take the packages containing the pipe and lambda probe out of the firebox holder in the boiler. Assemble the probe on the probe as follows:

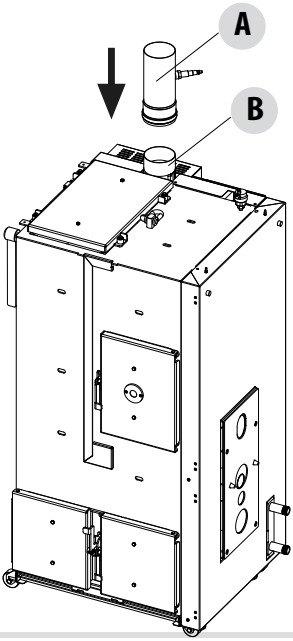
- slide the plastic hood "**p**" off the probe "**s**".
- screw the probe "**s**" onto the thread "**f**" on the pipe "**T**".
- Check that the gasket "**g**" is on the intake of pipe "**T**". If this is not present, you need to request it. **Pipe "T" should not be assembled without the gasket.**

ATTENTION! Fasten on the lambda probe with care.



T = Pipe diameter 100
f = pipe thread
p = plastic cap
s = probe
g = gasket

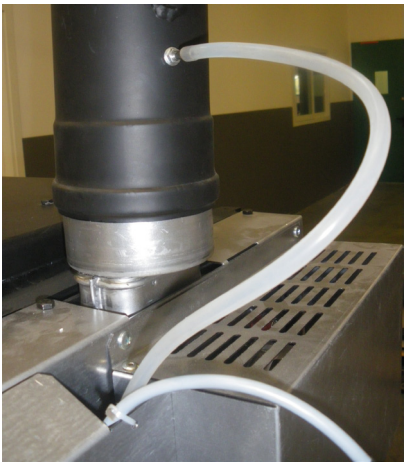
Next, insert the probe pipe on the smoke outlet pipe of the boiler as shown in the figure.



A = PROBE PIPE
B = SMOKE OUTLET PIPE

g) assemble the lambda probe and connect it to the boiler connector.
Connect the piston pin of the probe on the connector at the top of the boiler.

h) connect the pressure gauge pipe to the pressure outlet.
Connect the transparent pipe from the top part of the boiler to the pressure connector.



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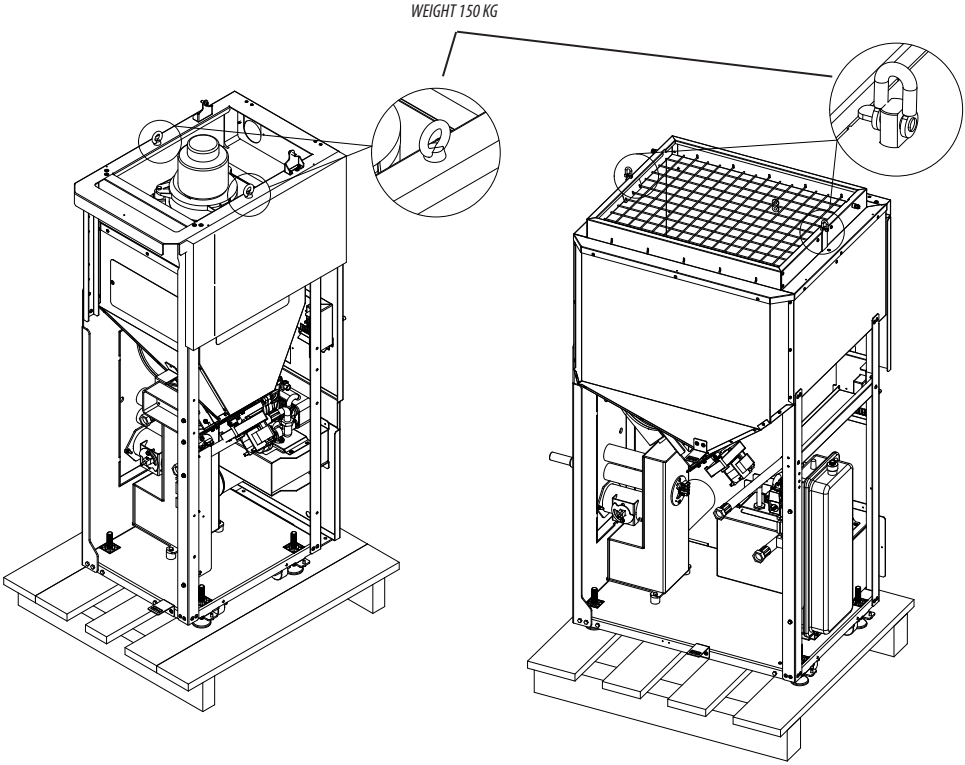
7 - INSTALLATION AND ASSEMBLY OF TANK

Instructions on how to install the structure of the tank:
a. Positioning on the ground (lifting or slide).
b. Put the tank in the room where it is to be installed (but NOT in its definitive position).
c. assembly of left side of the tank
d. Hydraulic connection of the tank to the boiler
e. mechanical connection between tank and boiler
f. insertion of spark plug
g. electrical and hydraulic connection of the control panel to the tank
h. electrical connection between tank and boiler
i. hydraulic connection between tank and water mains (supply-return-sanitary-filling)
l. hydraulic feed of boiler and check for leaks
k. assembly of aesthetics unit of boiler
m. assembly of trolley drawer, if easyclean kit is present
n. assembly of aesthetic unit of tank
o. hydraulic connection between the tank and water mains

a) Positioning on the ground (lifting or slide).

Open the package and remove the two front and back brackets, removing the two screws between each bracket and the tank and the two screws that fasten the bracket to the pallet. After unpacking the structure it is possible to move the tank in two ways:
1) by means of the two lifting points on the tank.

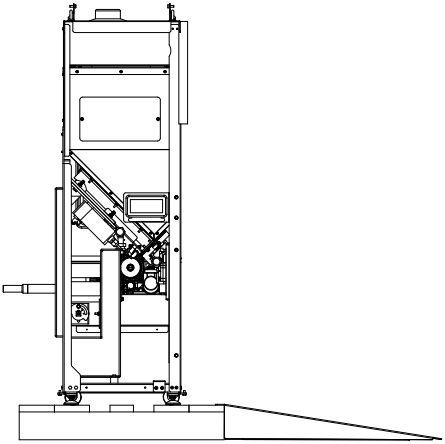


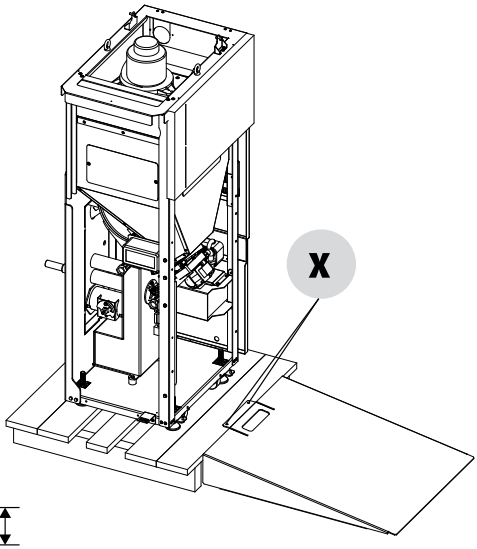
ATTENTION! Do not use a single lifting point: use both at the same time.

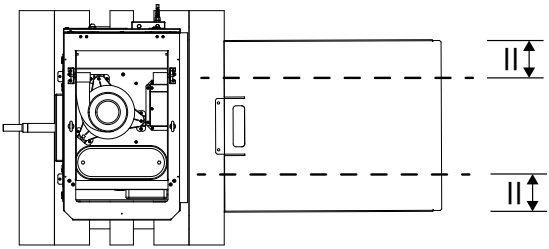
7 - INSTALLATION AND ASSEMBLY OF TANK

2) using the slide (sold as an accessory).
Put the slide against the pallet and fasten it on with the two screws at pos. x in the figure, aligning it with the wheels of the tank. The slide can be fastened onto the pallet with the screws removed from the brackets that previously held the tank on the pallet.

REFILL TANK







ATTENTION!
The support surface of the slide must be made of cement or at least be of an equivalent consistency.

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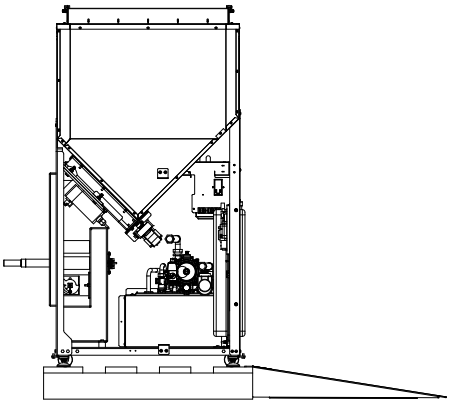
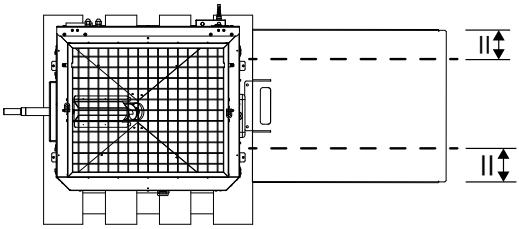
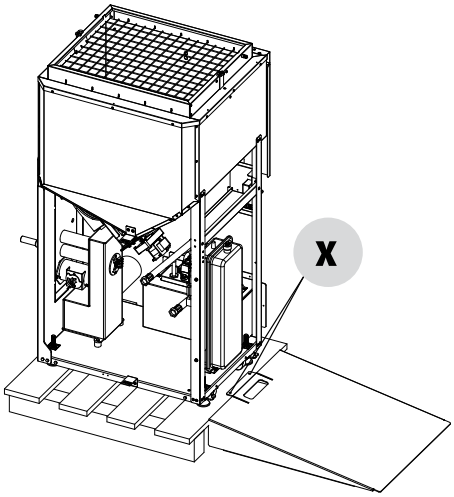
7 - INSTALLATION AND ASSEMBLY OF TANK

MANUAL TANK

Same procedure as for the Refill tank.



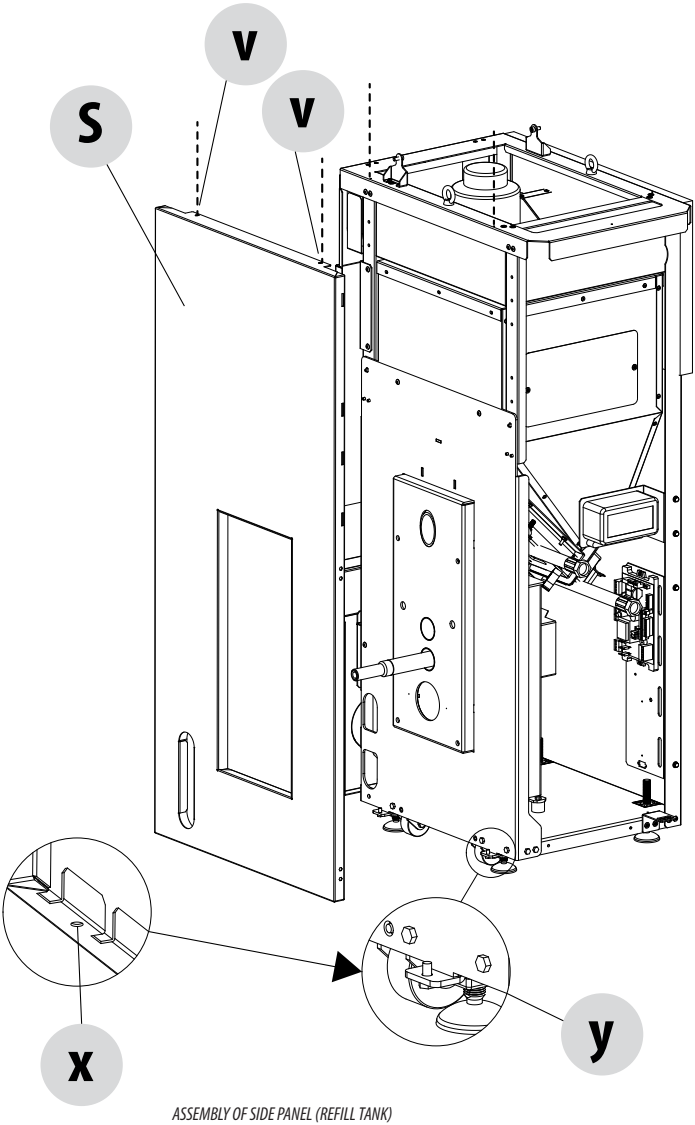




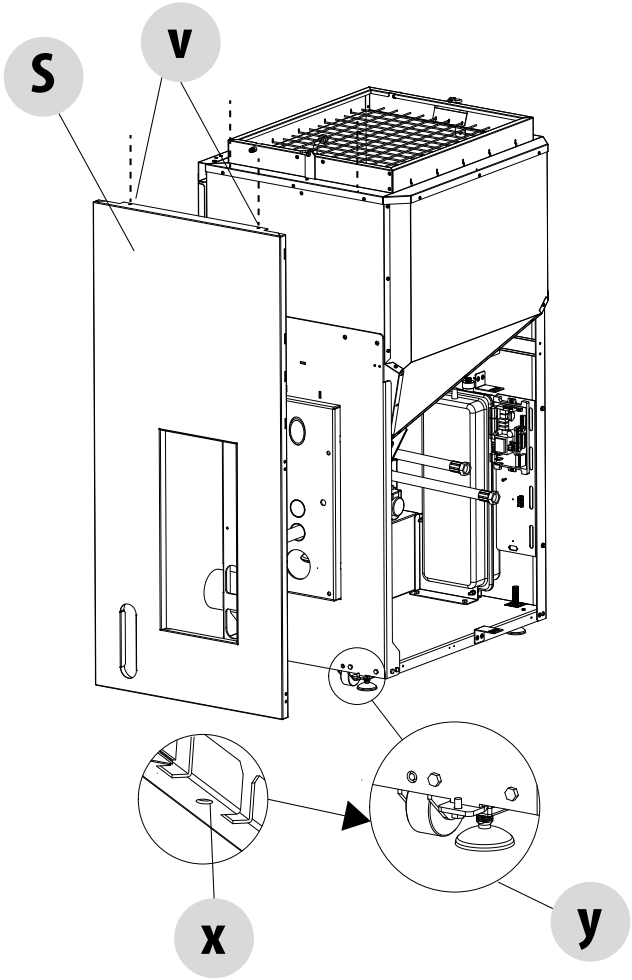
b) Put the choice of tank (Refill or manual) in the installation area and with reference to the definitive measurements recommended above (see page 22)

7 - INSTALLATION AND ASSEMBLY OF TANK

c) assembly of left side of the tank (manual/refill) (OBLIGATORY before connecting the tank to the boiler).
Take the left side "**S**" and put it next to the tank. The side to be used is easily recognisable because it has two holes in the middle.
At the base of the panel are two holes "**x**" to be put on the references "**y**" at the base of the structure of the tank. Fasten the panel at the top with the two screws provided, position "**v**".



ASSEMBLY OF SIDE PANEL (REFILL TANK)

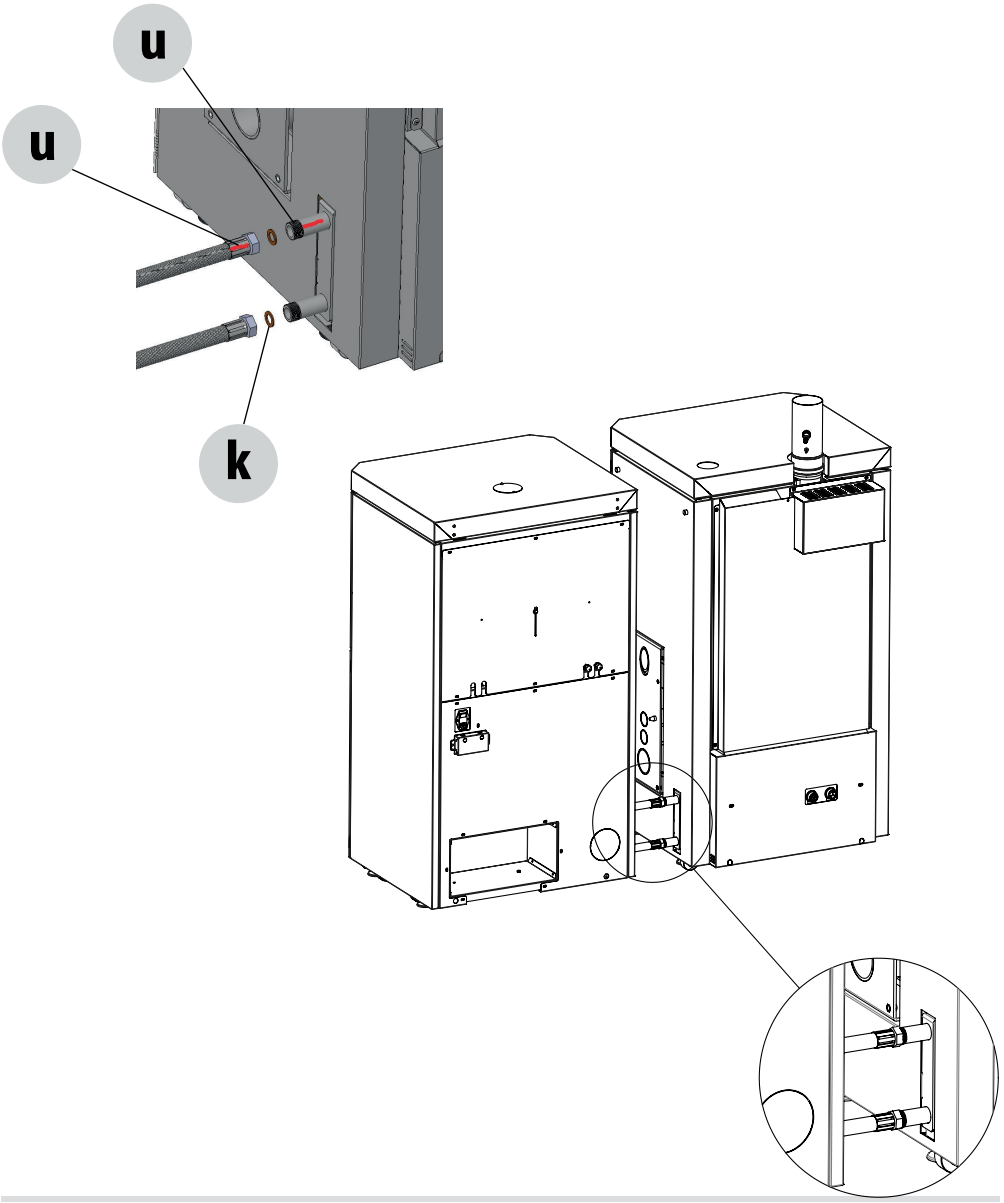


ASSEMBLY OF SIDE PANEL (MANUAL TANK)

d) hydraulic connection of the tank to the boiler

The hydraulic kit is already installed on the tank. Simply remove the two flexible pipes in the pellet tank and connect them to the two pipes in the boiler.

- Remove the flexible pipes.
- Find the gasket "**k**" (provided).
- Identify the flexible pipe with red marking "**u**" and connect it to the relative one of the boiler using gasket "**k**".



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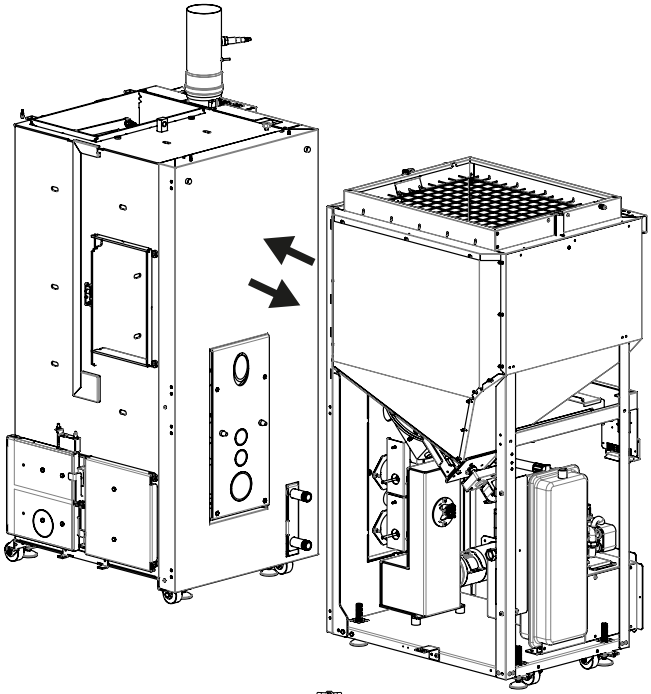
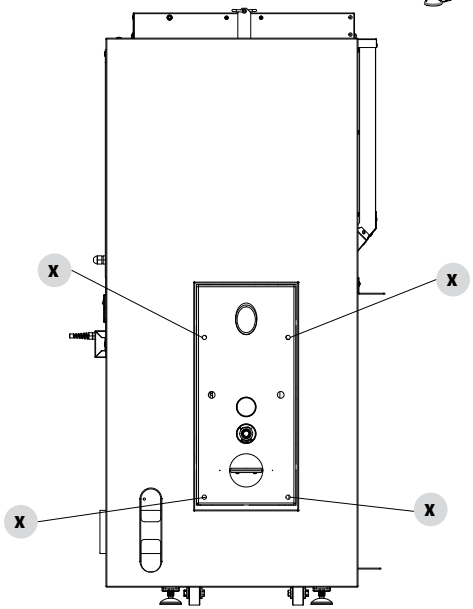
e) mechanical connection between tank and boiler

Put the tank and boiler in their definitive position.

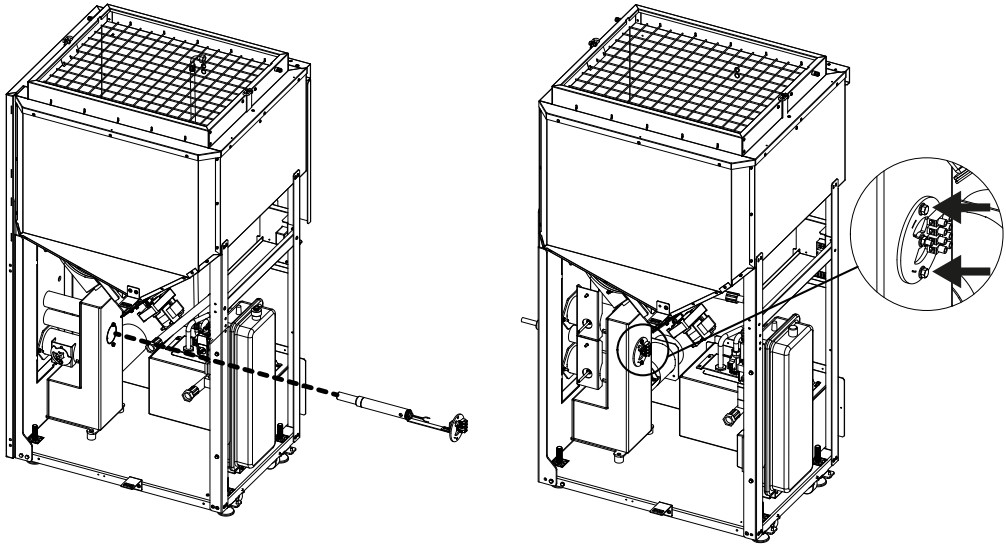
Next, connect the tank to the boiler with the four screws "**x**" already mounted on the boiler.



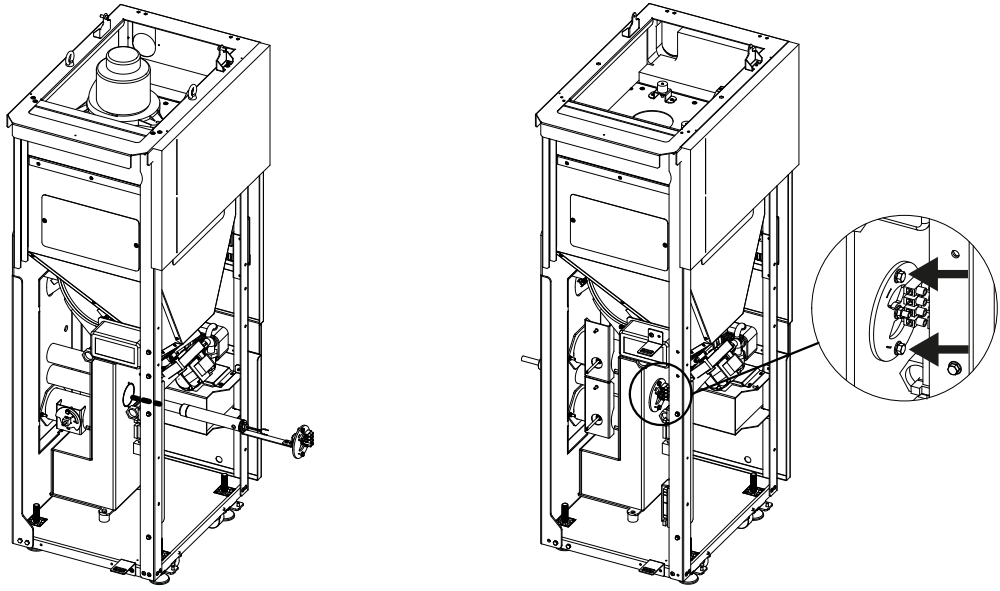


f) insertion of spark plug

Locate the spark plug loosely fitted in the tank and insert it fully, and fasten it in place with the two screws provided, as shown in the figure. Apply gentle pressure to counteract the resistance of the spring and push the flange all the way down onto the structure.



DETAIL OF FASTENING OF SPARK PLUG (MANUAL TANK)



DETAIL OF FASTENING OF SPARK PLUG (REFILL TANK)

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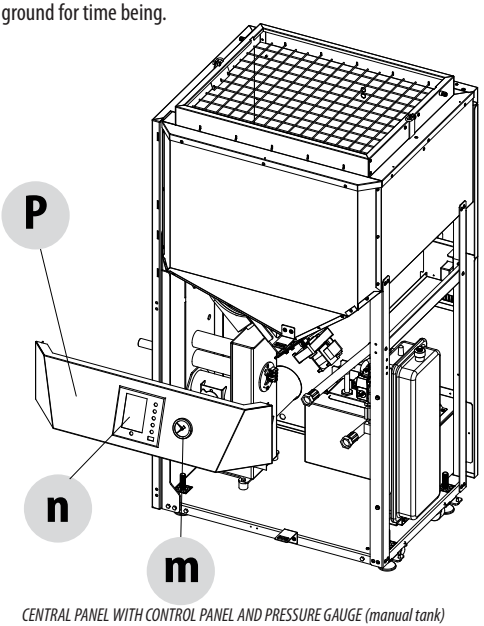
g) electrical and hydraulic connection of the control panel to the tank

Manual tank

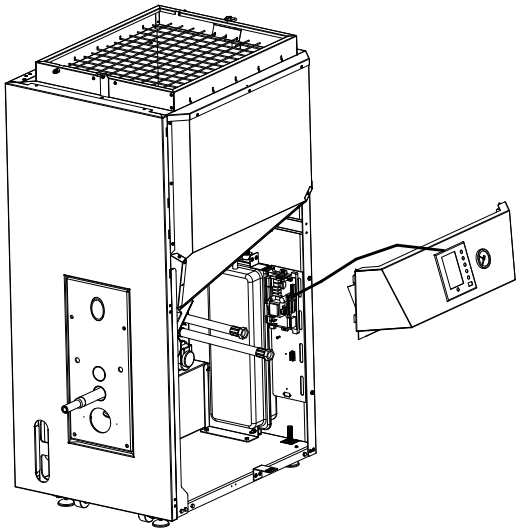
Locate the main instrument panel "**P**" with control panel "**n**" and pressure gauge "**m**" which is in the tank package, and proceed with electrical and hydraulic installation.

Connect the cable of the control panel "**n**" to the printed circuit board pos. "**o**" and the capillary of the pressure gauge "**m**" to the hydraulic kit.

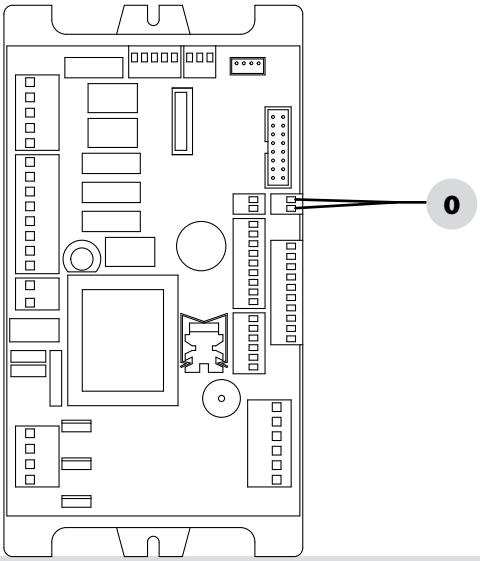
Attention! It is not possible to assemble the instrument panel "**P**" until the sides of the tank have been assembled. Put it down on the ground for time being.



CENTRAL PANEL WITH CONTROL PANEL AND PRESSURE GAUGE (manual tank)



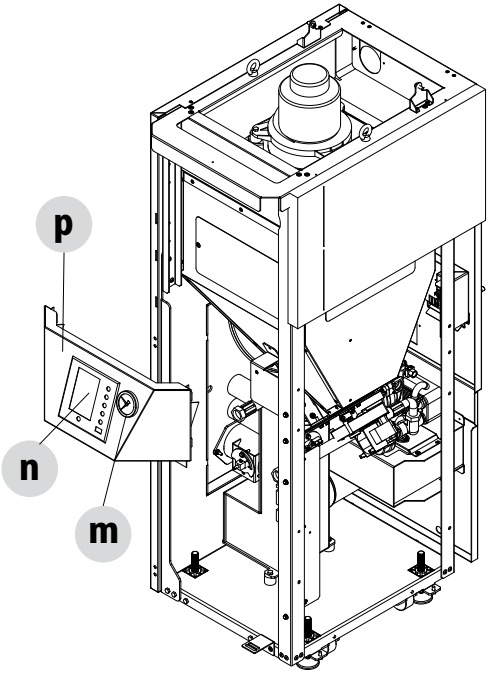
ELECTRICAL CONNECTION OF CONTROL PANEL (manual tank)



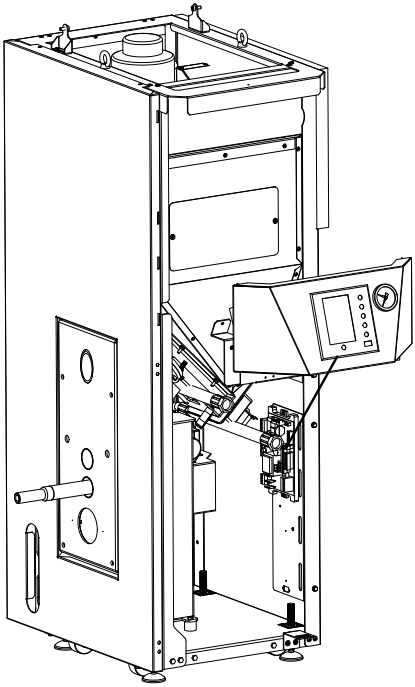
POSITION FOR ELECTRICAL CONNECTION OF CONTROL PANEL (manual tank)

Refill tank

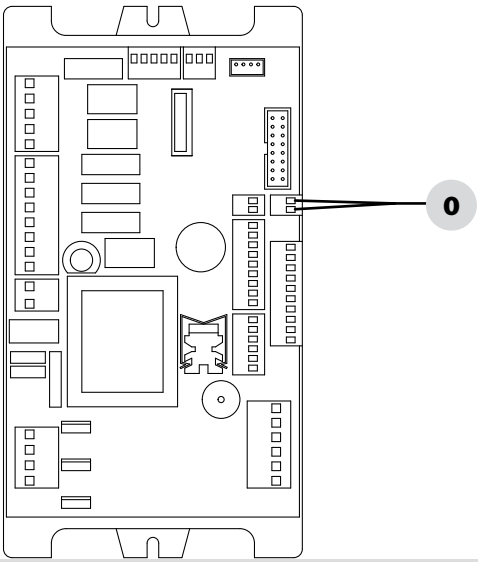
Connection of control panel.



CENTRAL PANEL WITH CONTROL PANEL AND PRESSURE GAUGE (refill tank)



ELECTRICAL CONNECTION OF CONTROL PANEL (refill tank)



POSITION FOR ELECTRICAL CONNECTION OF CONTROL PANEL (refill tank)

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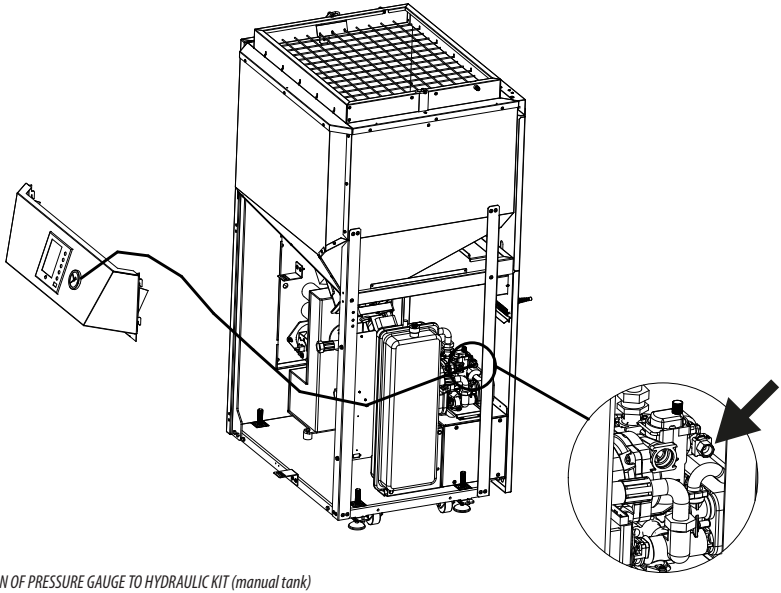
7 - INSTALLATION AND ASSEMBLY OF TANK

Connection of pressure gauge.

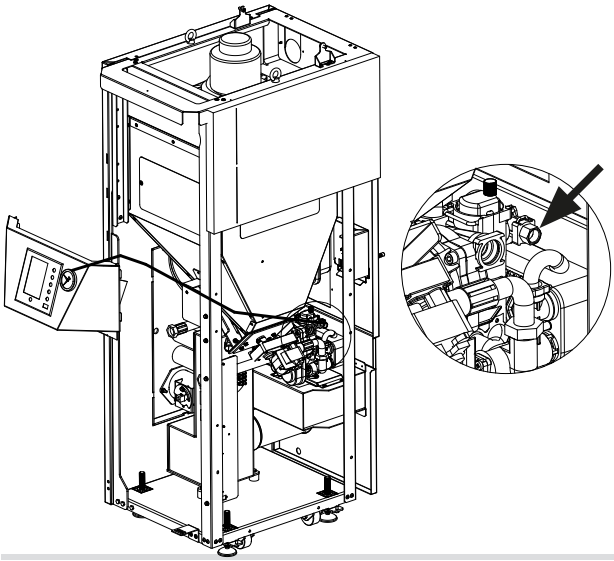
a) Remove fitting "**R**" from the tip of the capillary "**C**".
b) Unscrew fitting "**T**" on the hydraulic unit.
c) Insert fitting "**T**" on the capillary by means of the slot.
d) Screw fitting "**T**" onto the hydraulic unit.

Manual tank

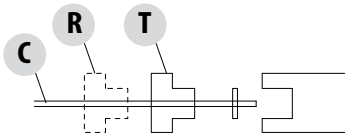


CONNECTION OF PRESSURE GAUGE TO HYDRAULIC KIT (manual tank)

Refill tank



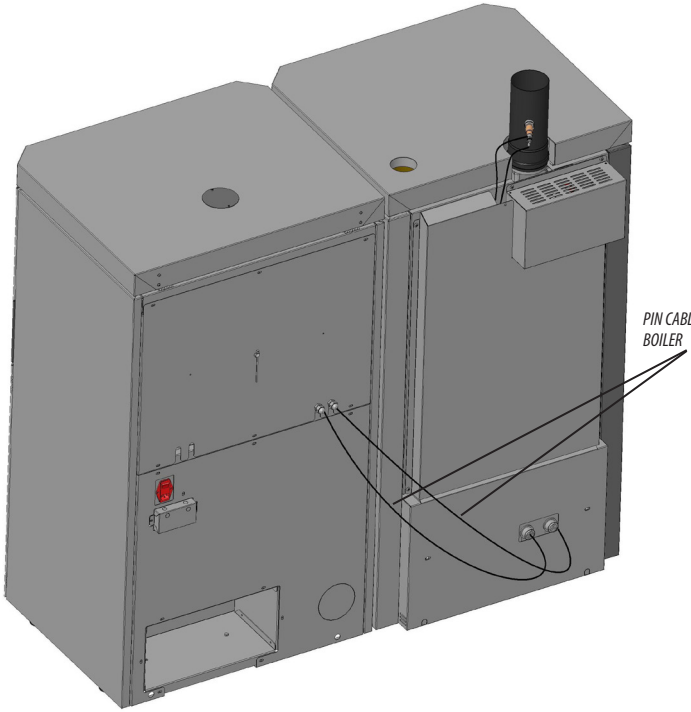
C = PRESSURE GAUGE CAPILLARY
R = FITTING ON CAPILLARY
T = FITTING MOUNTED ON HYDRAULIC UNIT

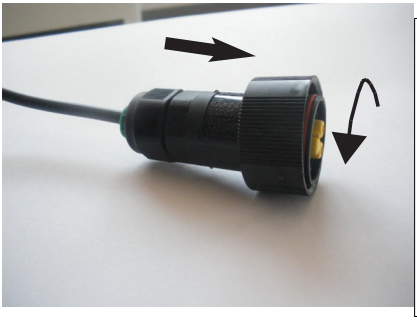


CONNECTION OF PRESSURE GAUGE TO HYDRAULIC KIT (refill tank)

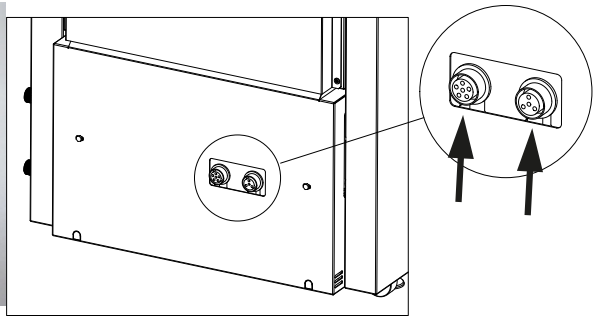
h) electrical connection between tank and boiler

Connect the two piston pins of the tank to the piston pins of the boiler. The connection of the piston pin on the boiler is recognisably different (see image below). It is necessary to put the piston pin in the socket and to turn the locking ring clockwise until it is stops.
The connections are not the same and cannot, therefore, be inverted. Do not apply unnecessary force.





PISTON PIN



PISTON PIN CONNECTOR AT BACK OF BOILER

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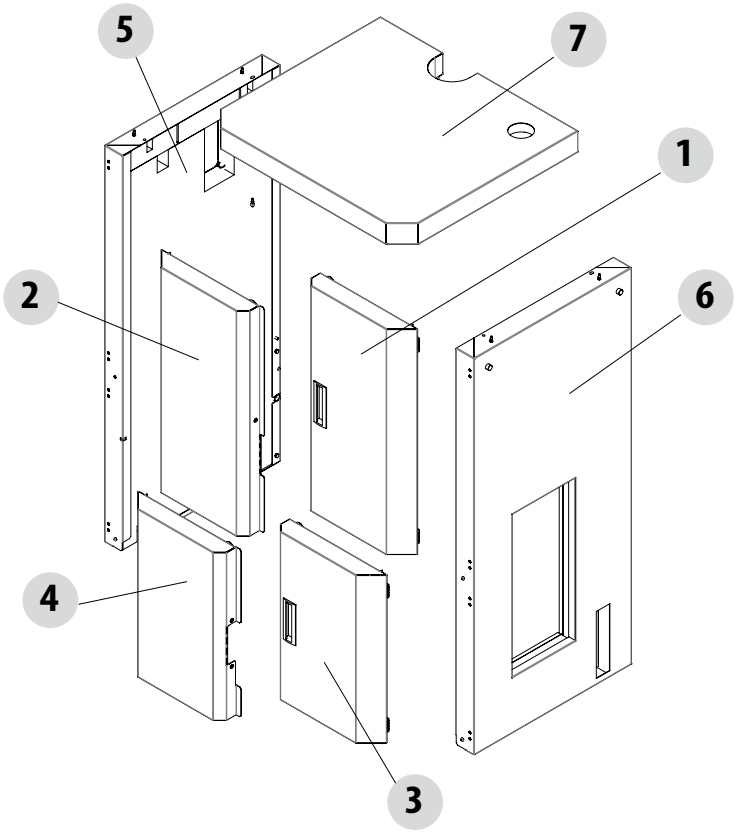
8 - ASSEMBLY OF BOILER AESTHETICS UNIT

i) hydraulic connection between tank and water mains (supply-return-sanitary-filling)
(RESPONSIBILITY OF SPECIALISED HYDRAULIC TECHNICIAN)

l) hydraulic supply to boiler and checking for leaks (RESPONSIBILITY OF SPECIALISED HYDRAULIC TECHNICIAN).

k) assembly of aesthetics unit of boiler
After completing steps "**i**" and "**l**", assemble the aesthetics unit of the boiler.

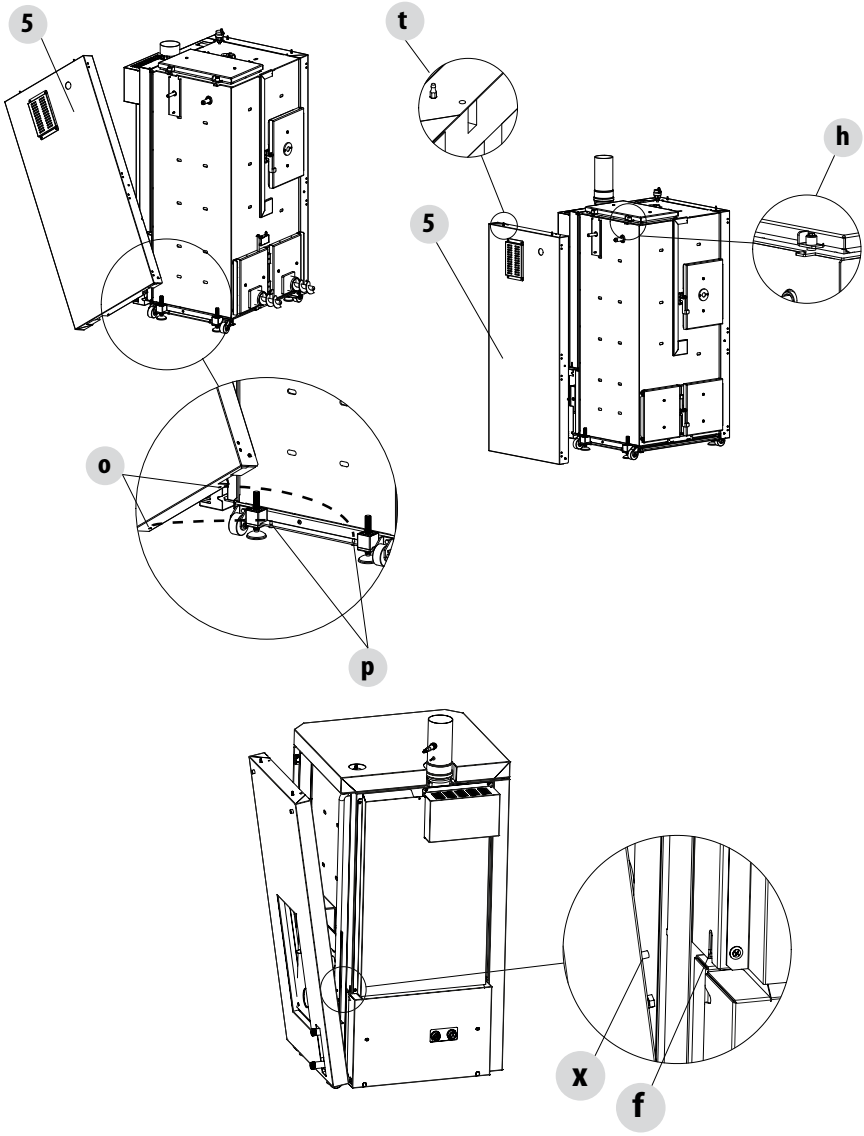


For convenience, the panels are identified with the numbers in the picture.

BOILER AESTHETICS UNIT

8 - ASSEMBLY OF BOILER AESTHETICS UNIT

First of all, locate the left side panel "**5**" and fasten it onto the structure of the boiler. At the bottom, fit the holes "**o**" in the side on the pins "**p**" of the boiler.
At the top of the panel, instead, insert the two flaps ("**h**") in the gaps (detail "**t**") and fasten them on with the two screws.
When installing the side of the boiler make sure the pin on side "**x**" engages in slot "**f**" at the back of the boiler.
NOTE: If the accessory kit (automatic ash outlet) is not present, leave the cable (for connecting the micro-switch) in the panel.



ASSEMBLY OF LEFT-HAND SIDE PANEL OF BOILER

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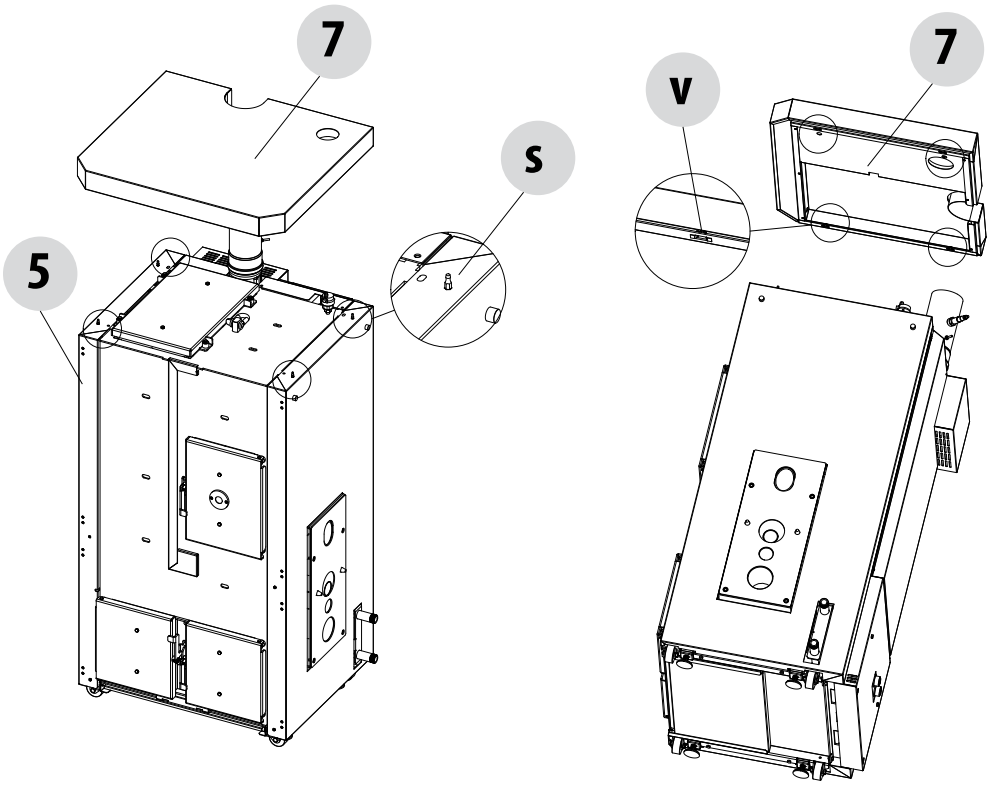
8 - ASSEMBLY OF BOILER AESTHETICS UNIT

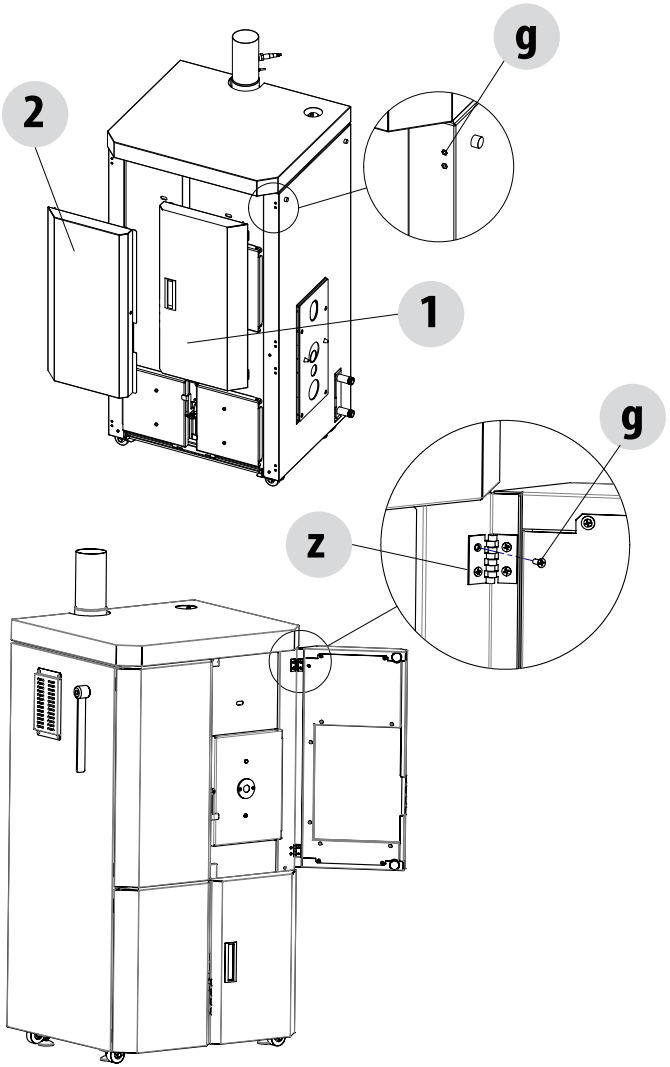
After fastening the left panel on the boiler, locate the top cover "**7**" and feed the pins "***s***" above the two side panels of the boiler into the fittings "**v**" at the base of cover "**7**".



ASSEMBLY OF TOP COVER OF BOILER

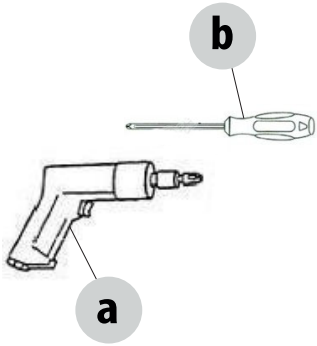
8 - ASSEMBLY OF BOILER AESTHETICS UNIT

At this point, locate the two top doors "**1**" and "**2**" and fasten them onto the boiler. Doors "**1**" and "**2**" are already fitted with hinges. Fasten the two hinges "**z**" onto the structure of the boiler using the holes "**g**" and screws provided in the package of the manual/refill tank.



ASSEMBLY OF TOP DOORS OF BOILER

*Tools: Screwer with cross insert "**a**" or Phillips screwdriver "**b**".*



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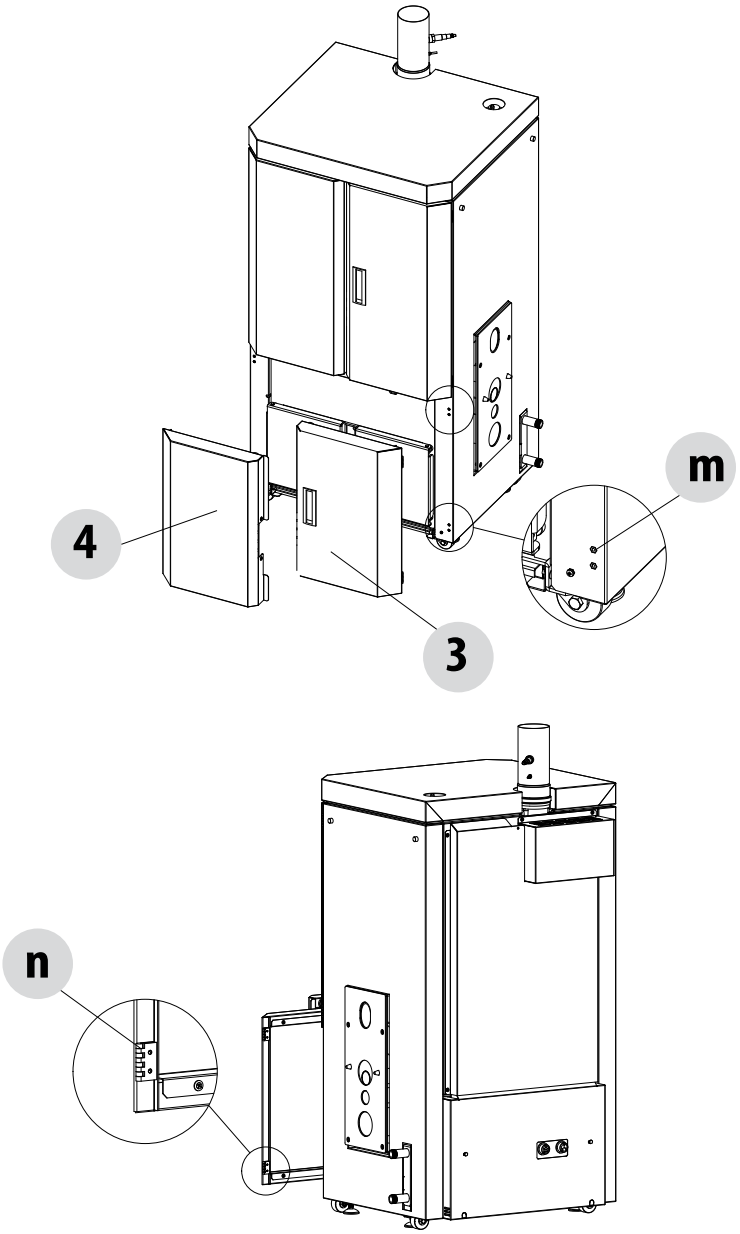
8 - ASSEMBLY OF BOILER AESTHETICS UNIT

If the Easyclean kit is not available, repeat this procedure for the two bottom doors "**3**" and "**4**". In this case, too, doors "**3**" and "**4**" are already fitted with hinges. Fasten the two hinges "**n**" onto the structure of the boiler at the point of the holes "**m**".



ASSEMBLY OF BOTTOM DOOR OF BOILER

9 - ASSEMBLY OF TROLLEY

m) if the easyclean kit is present, assemble the trolley drawer.

Complete the assembly of the automatic ash outlet kit by inserting the trolley.

- To facilitate the operation, at least for the first few times, remove the door "**z**" (FIGURE A) of the trolley to permit better visibility.
- Adjust the foot "**p**" of the trolley to tilt it very slightly (FIGURE B).

FIGURE A

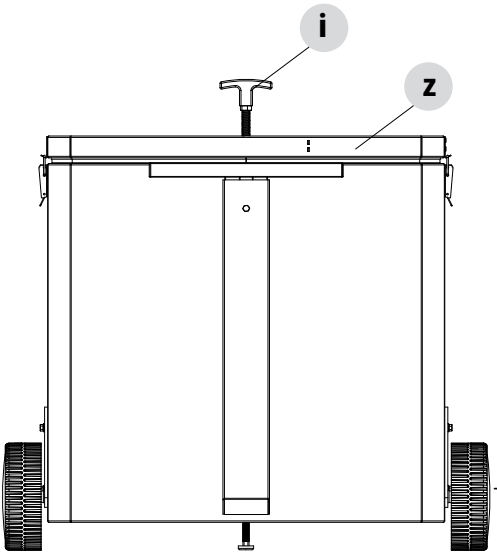
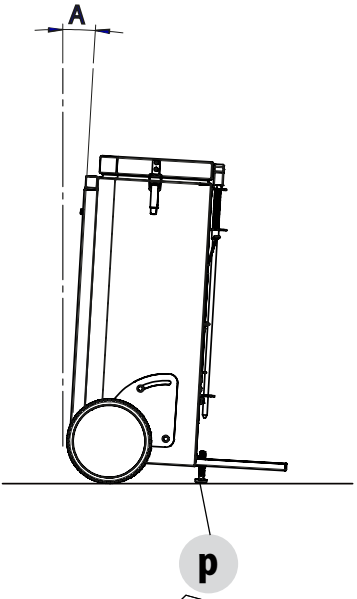
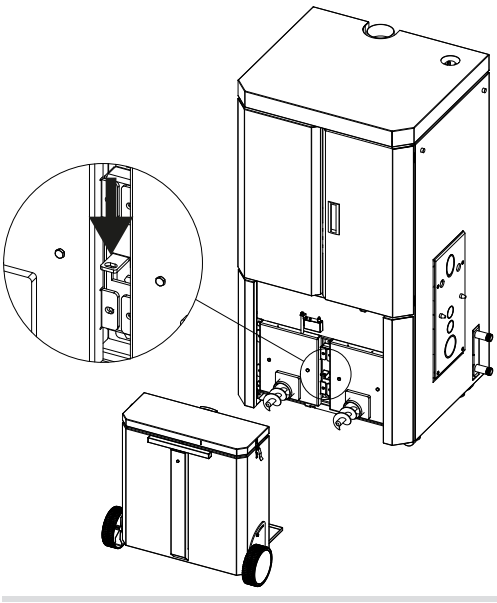
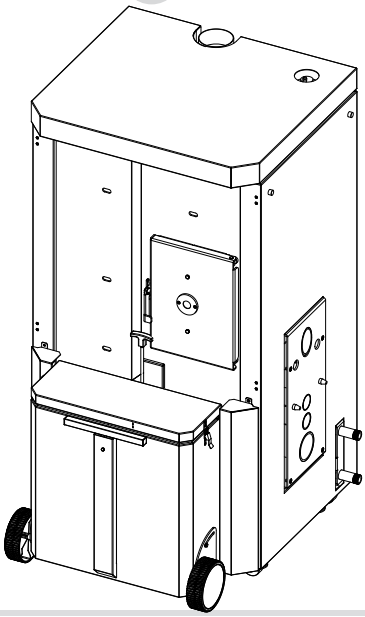


FIGURE B







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9 - ASSEMBLY OF TROLLEY

- Open doors "**1**" and "**2**".
- Hold the trolley with both hands and move it up to the structure of the boiler (FIGURE 1).
- Engage the intakes of the trolley in the two protruding augers (FIGURE 2).
- Use one hand to lift handle "**i**" and another to push the trolley towards the boiler.
- Lower handle "**i**" to secure the trolley onto the structure.
- **CHECK:** The auger intake should protrude about 13 mm further out than the intake of the trolley (FIGURE 3).
- Re-assemble the top door "**z**" of the trolley.

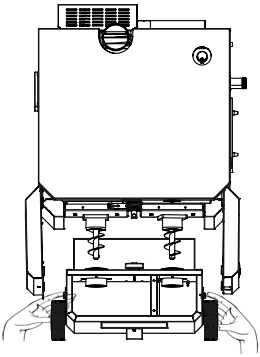


FIGURE 1

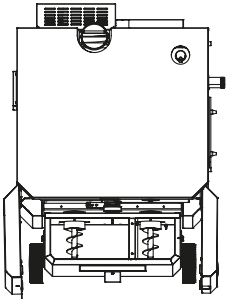


FIGURE 2

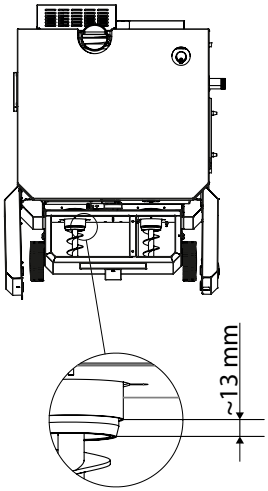
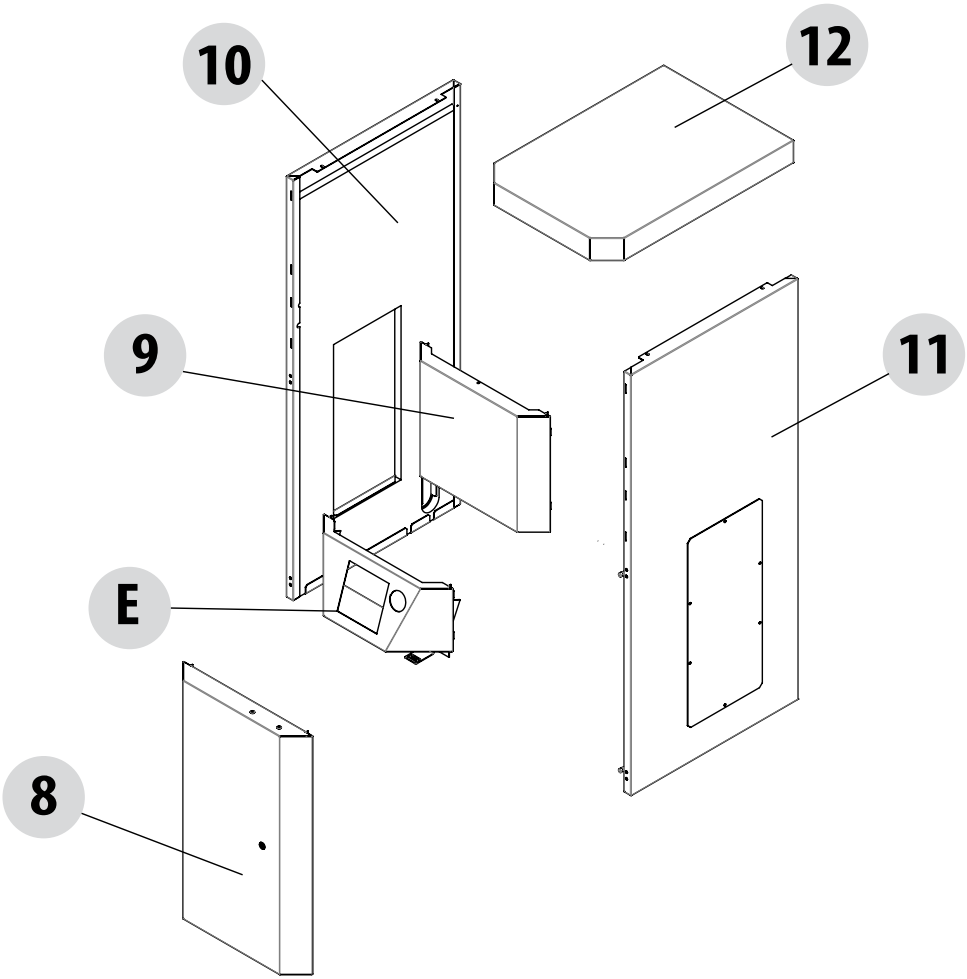


FIGURE 3

10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

n) assembly of aesthetic unit of tank
Refill tank



REFILL TANK AESTHETICS UNIT

For convenience, the panels are identified with the numbers in the picture.

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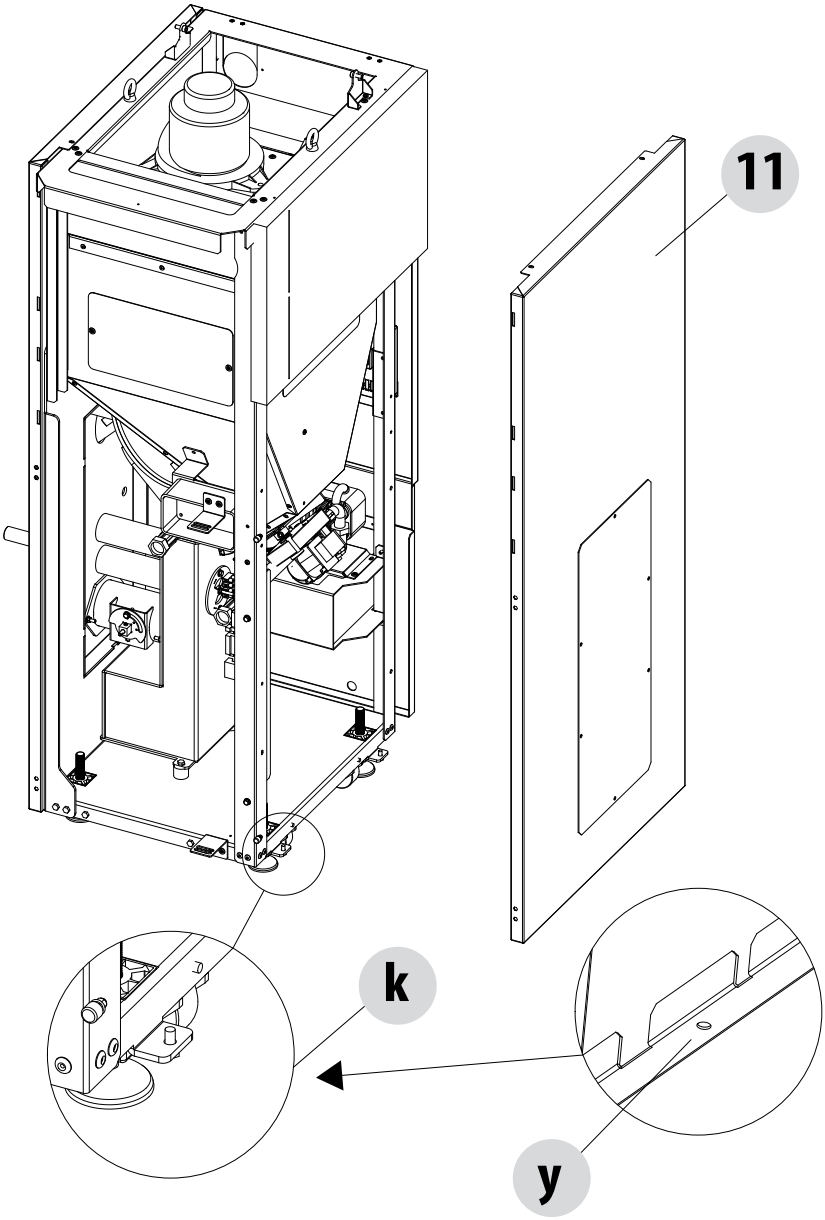
10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

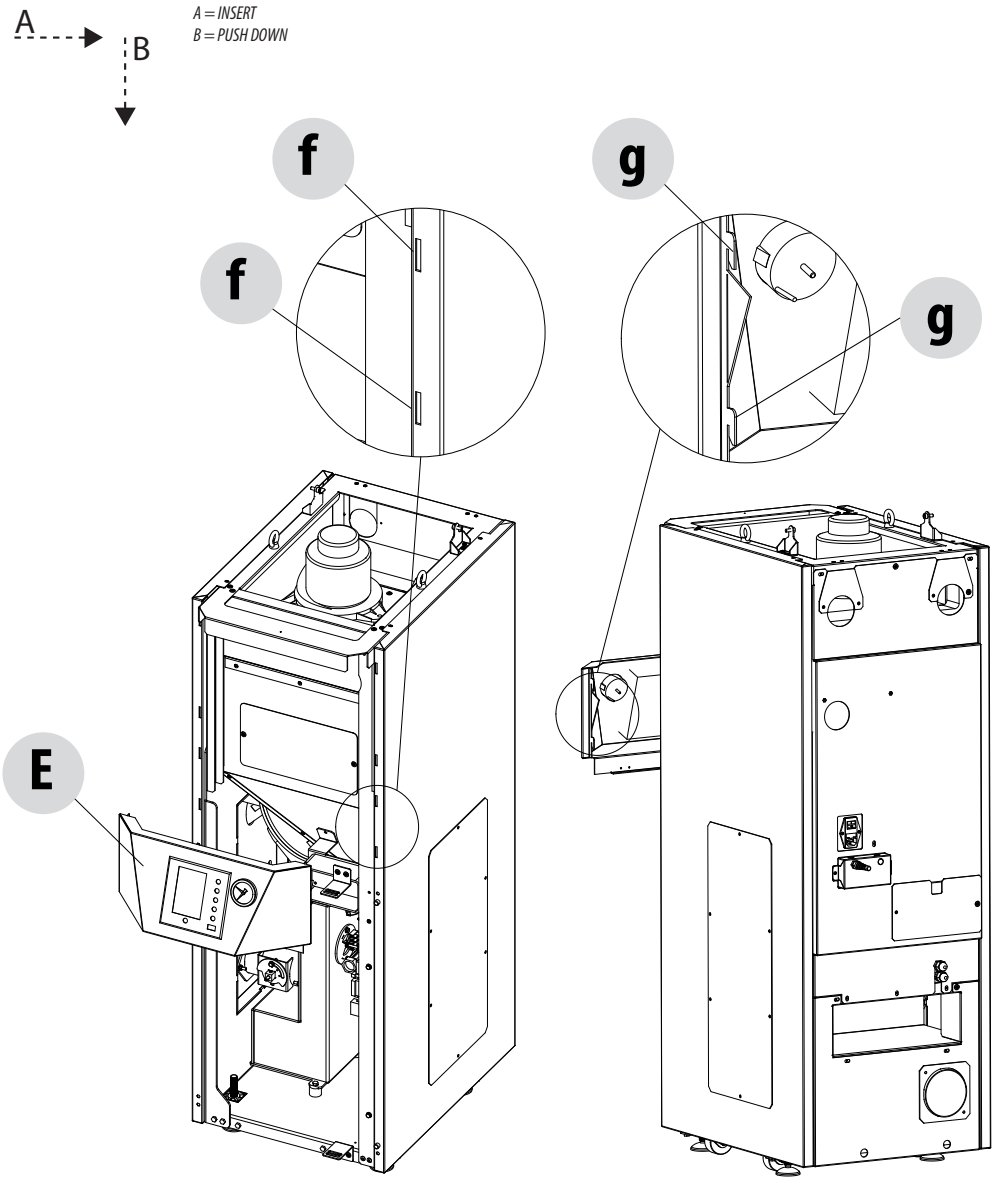
Locate the right side panel "**11**" and insert the holes "**y**" at the base of the panel on the pins "**k**" on the structure of the tank.



ASSEMBLY OF RIGHT-HAND SIDE PANEL (REFILL TANK)

10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

The central instrument panel "**E**" with control panel and pressure gauge has already been connected to the hydraulic kit and printed circuit board (see dedicated pages). Once the right panel has been mounted, it can be assembled on the structure of the tank by engaging parts "**g**" in holes "**f**".
HOW TO INSERT INSTRUMENT PANEL "**E**":



ASSEMBLY OF CENTRAL PANEL (REFILL TANK)

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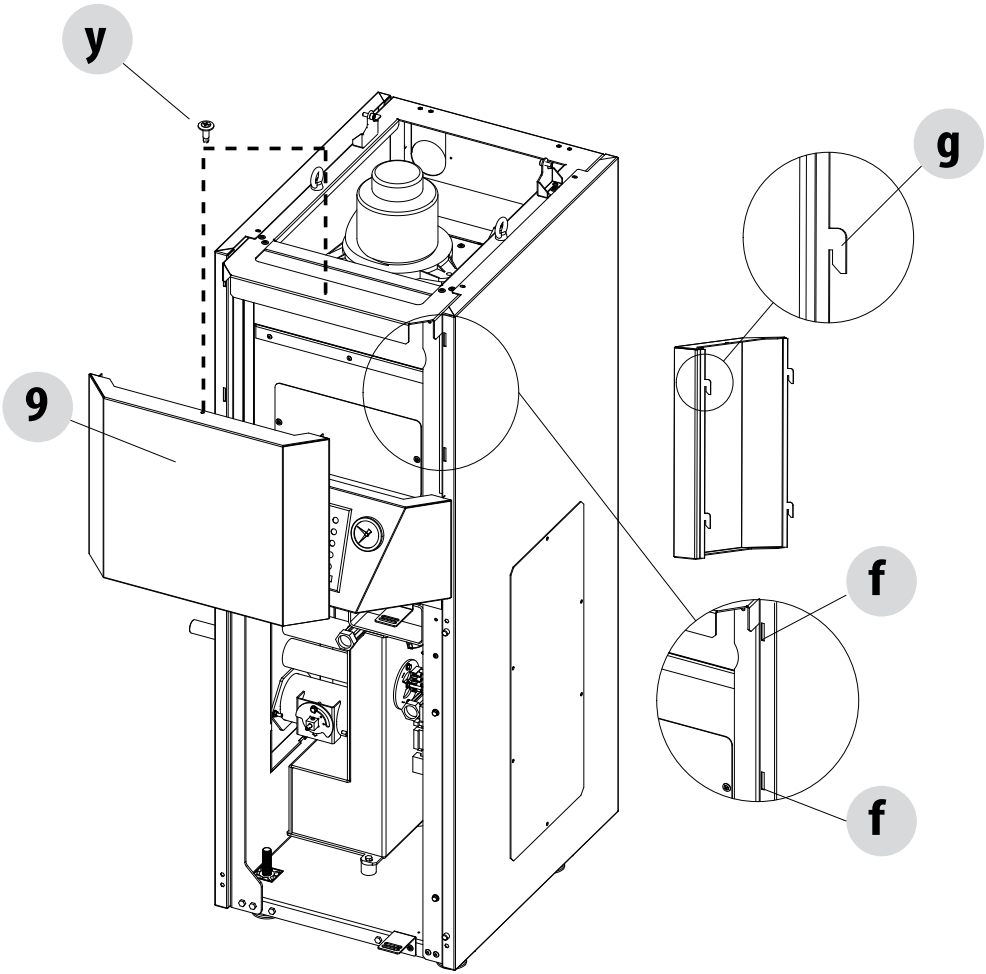
10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

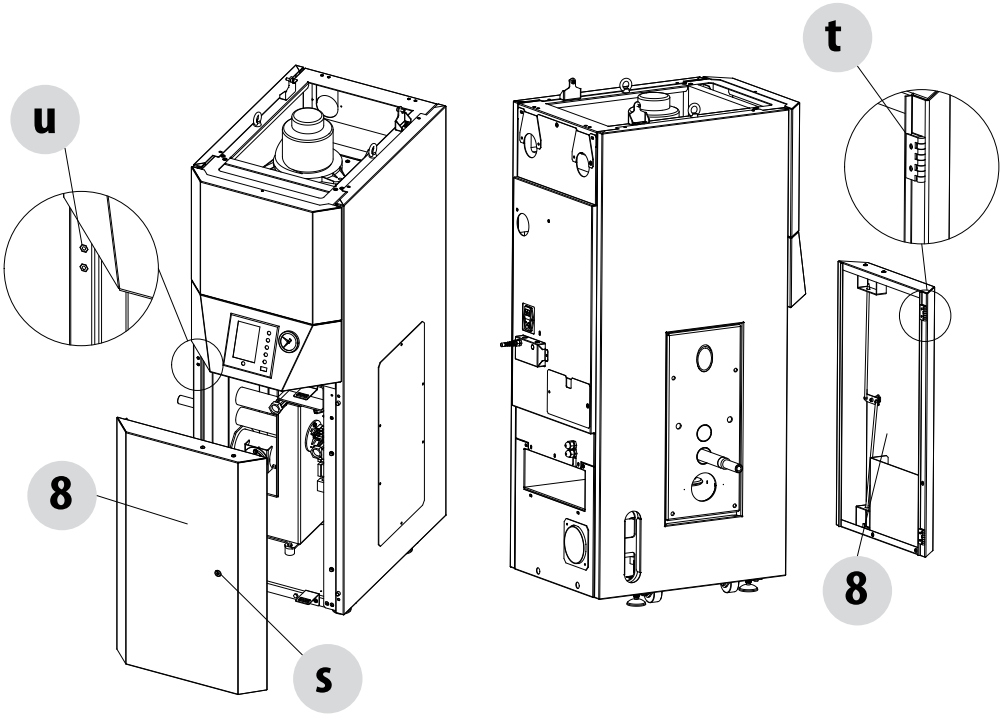
The top panel "**9**" has the same fastening system as central panel "**E**". Insert the hooks "**g**" in the holes "**f**" on the structure of the tank. Use screw "**y**" (provided) to secure the top of the panel "**9**".



ASSEMBLY OF TOP PANEL (REFILL TANK)

10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

The bottom door "**A**" is already fitted with hinges (detail "**t**") to be fastened onto the structure of the tank using the holes present (detail "**u**") and the screws provided.



ASSEMBLY OF DOOR (REFILL TANK)

IMPORTANT: Door "8" should be positioned with the lock "s" to the right.

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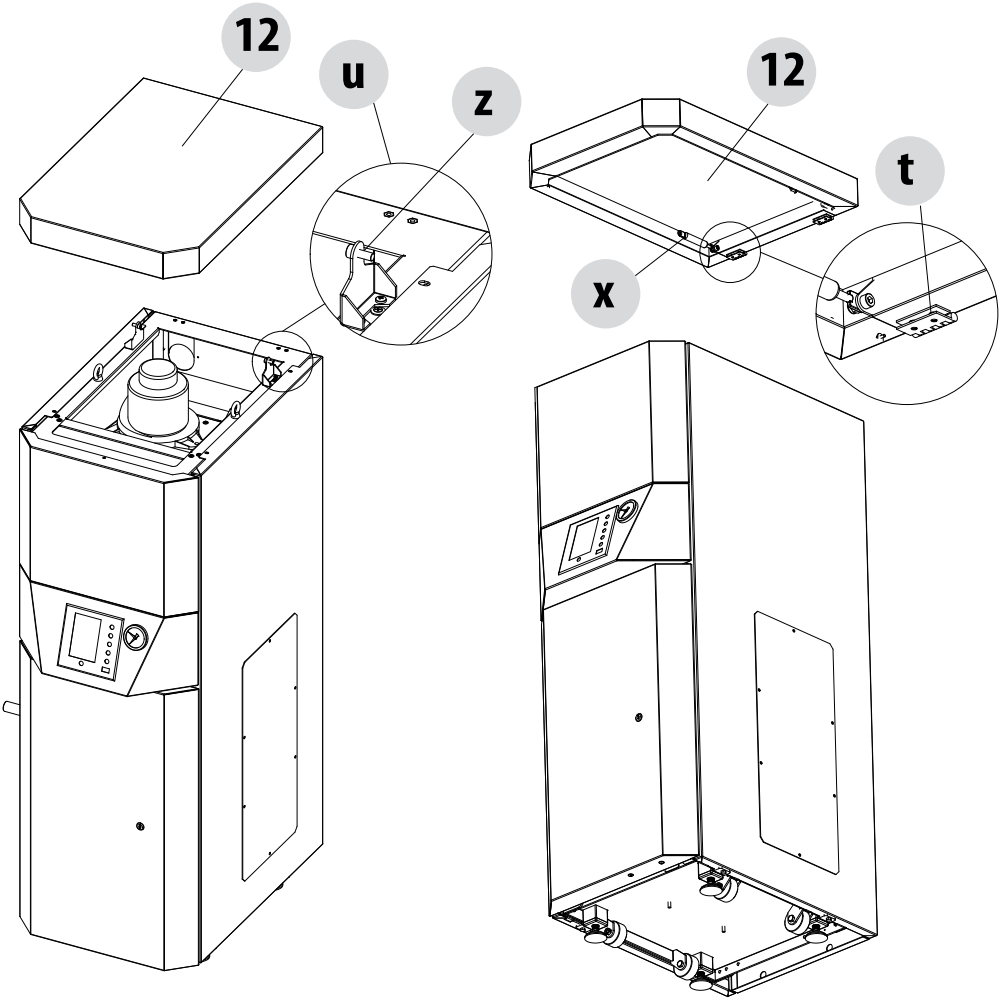
10 - ASSEMBLY OF AESTHETICS UNIT OF REFILL TANK

In order to fasten cover "**12**" already fitted with hinges (detail "**t**") it is necessary to fasten it first to the holes "**u**" in the structure of the tank (with the screws provided) then engage the ring on piston "**x**" on pin "**z**". Repeat this procedure for the second piston.

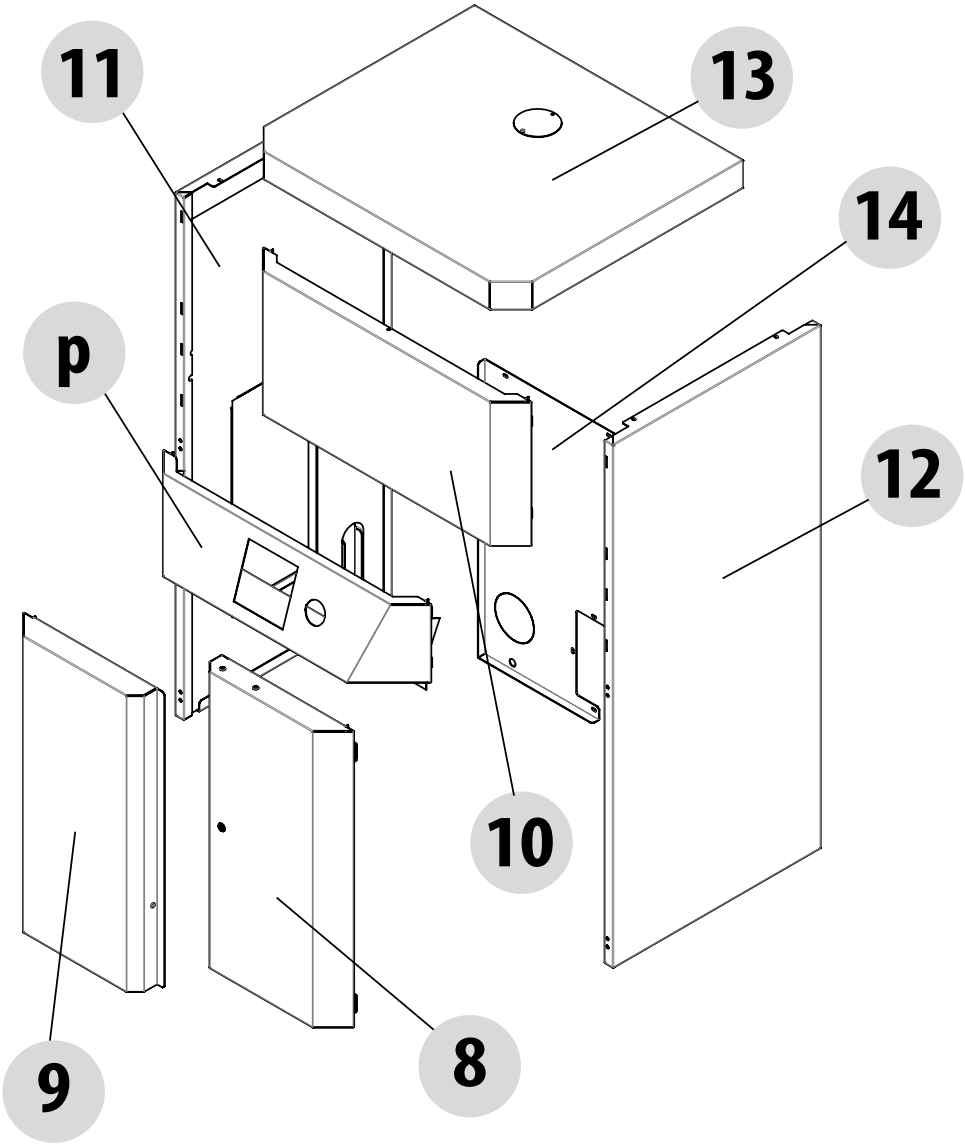


ASSEMBLY OF DOOR (REFILL TANK)

11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

MANUAL TANK

For convenience, the panels are identified with the numbers in the picture.



MANUAL TANK AESTHETICS UNIT

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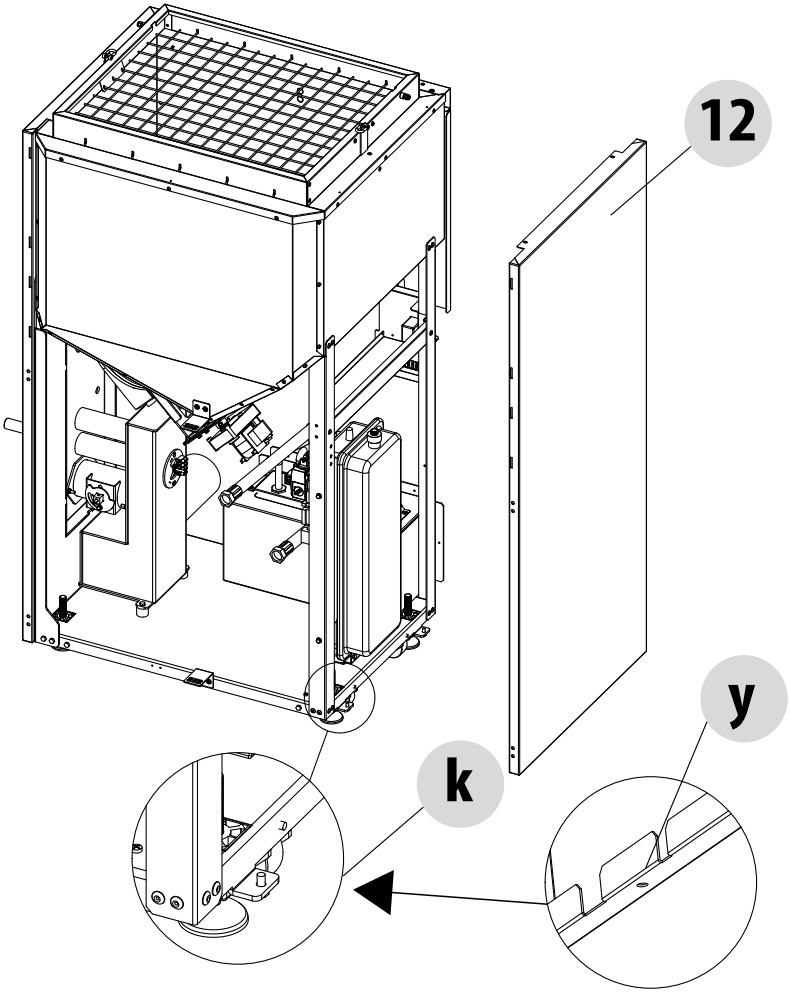
11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

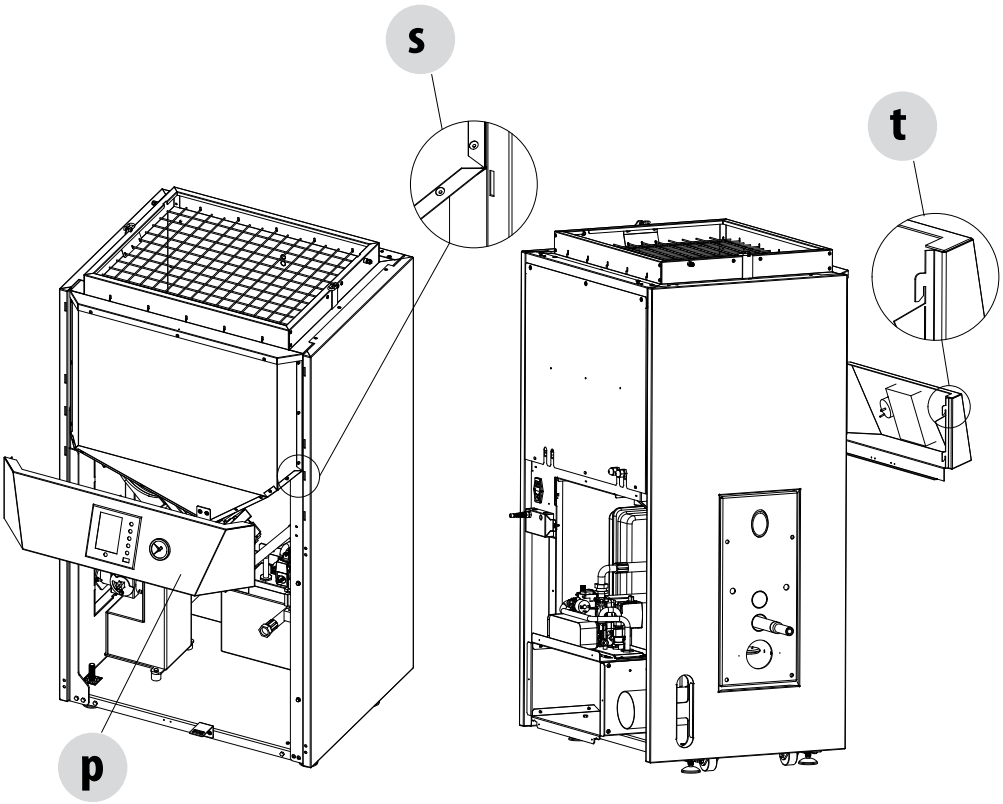
Locate the right side panel "**12**" and insert the holes "**y**" at the base of the panel on the pins "**k**" on the structure of the tank.



ASSEMBLY OF RIGHT-HAND SIDE PANEL (MANUAL TANK)

11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

The central instrument panel "**p**" with control panel and pressure gauge has already been connected to the hydraulic kit and printed circuit board (see dedicated pages). After assembling also the right panel with holes "**s**" it is possible to install it on the structure of the tank by engaging the parts "**t**".



ASSEMBLY OF CENTRAL PANEL (MANUAL TANK)

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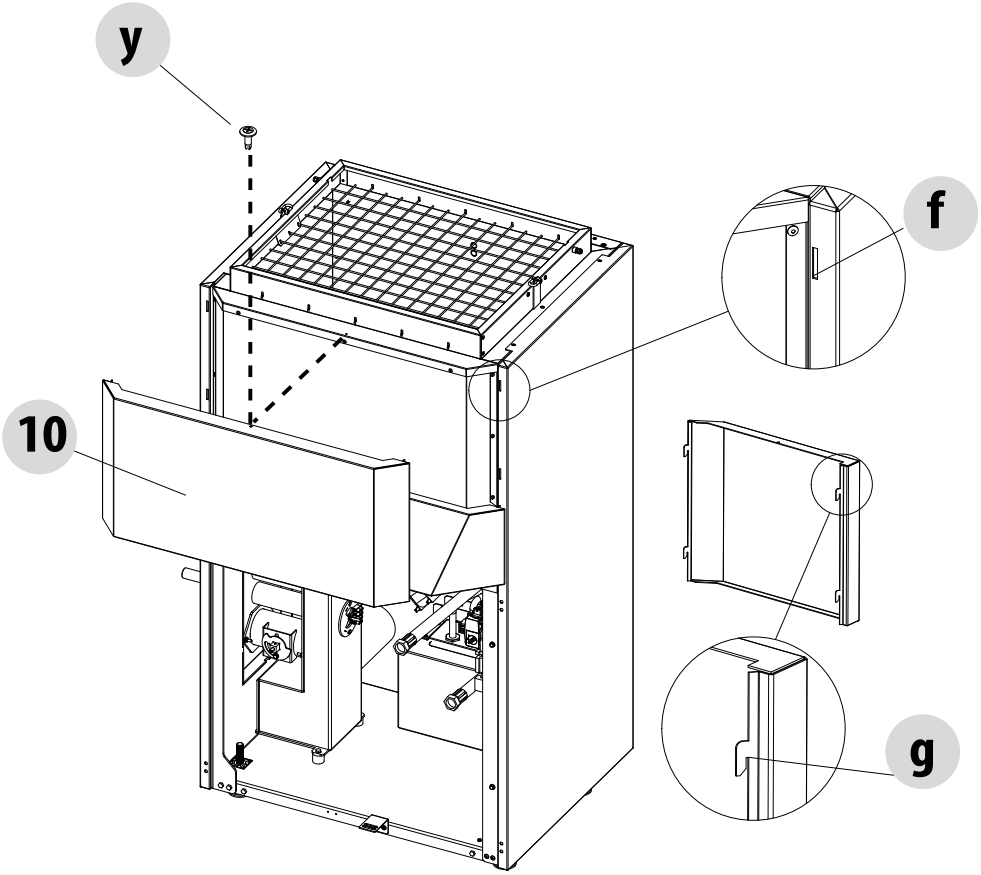
11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

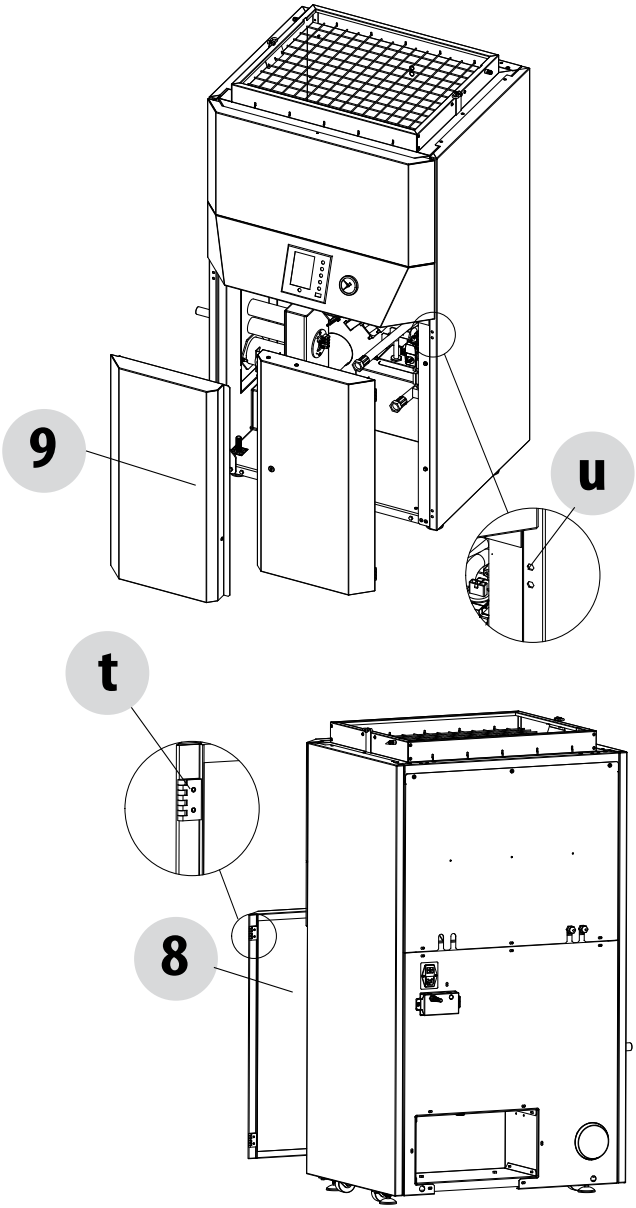
The top panel "**10**" has the same fastening system as central panel "**p**". Insert the hooks "**g**" in the holes "**f**" on the structure of the tank. Use screw "**y**" (provided) to secure the top of the panel "**10**".



ASSEMBLY OF TOP PANEL (MANUAL TANK)

11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

At this point, locate the two bottom doors "**8**" and "**9**" and fasten them onto the structure of the tank. Doors "**8**" and "**9**" are already fitted with hinges. Fasten the two hinges "**t**" onto the structure of the tank at the point of the holes "**u**".
Doors "**8**" and "**9**" should be assembled with the ground part on the outside.



ASSEMBLY OF DOOR (MANUAL TANK)

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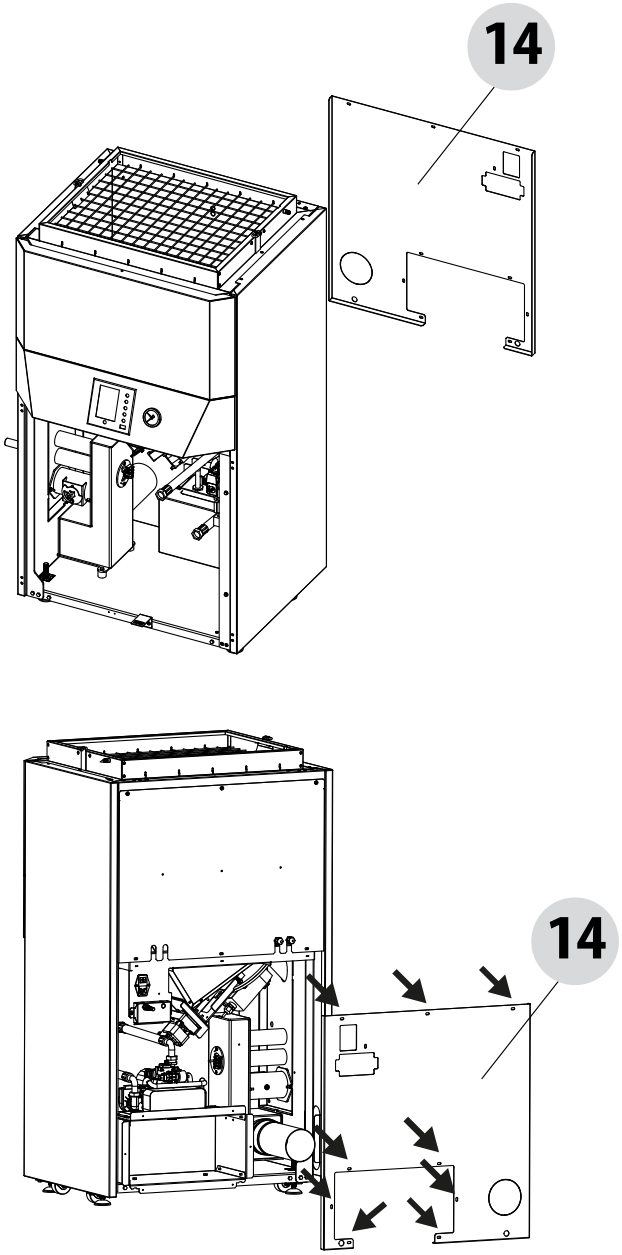
11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

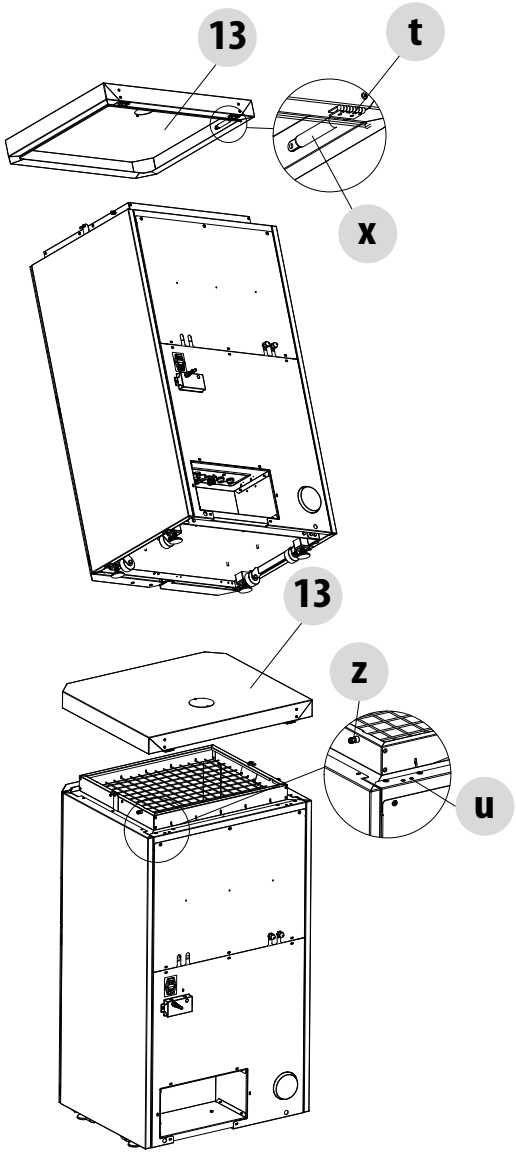
Fasten the rear panel "**14**" onto the structure of the tank with the screws provided.



ASSEMBLY OF REAR PANEL (MANUAL TANK)

11 - ASSEMBLY OF AESTHETICS UNIT OF MANUAL TANK

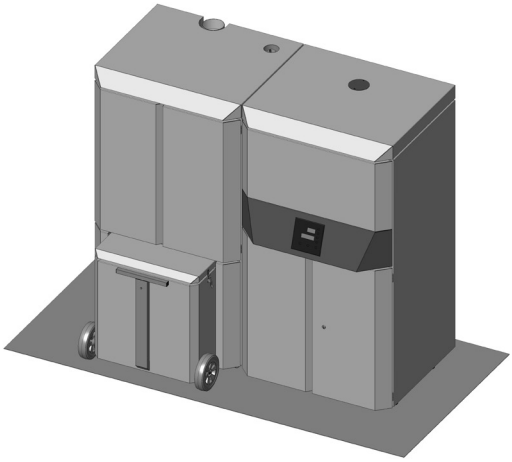
In order to fasten the cover "**13**", which is already fitted with hinges (detail "**t**"), attach it first to the holes (detail "**u**") on the structure of the tank (with the screws provided) and then engage the ring of the piston "**x**" on pin "**z**". Repeat the procedure for the second piston.



ASSEMBLY OF COVER (MANUAL TANK)

o) hydraulic connection between the tank and water mains (RESPONSIBILITY OF A SPECIALIST TECHNICIAN)
It is advisable to connect the tank and system with flexible pipes.

Via La Croce n°8
33074 Vigonovo di Fontanafredda (PN) – ITALY
Telefono: +39 0434/599599 r.a.
Fax: +39 0434/599598
Internet: www.mcz.it
e-mail: info.red@mcz.it



PELLET BOILER

LOGIKA 25-35
LOGIKA 25-35 REFILL

PART 2 - OPERATION AND CLEANING

Translation of the original instructions

red

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1 - PLUMBING CONNECTION

PLUMBING CONNECTION

IMPORTANT:
The connections depend on the type of hydraulic kit installed and the type of system configuration.

IMPORTANT!
The boiler must be installed by qualified personnel who can testify to the conformity of the system in accordance with the applicable laws in force.
The Company will not be held responsible for damage to persons or things in the event of failed or incorrect operation if the aforementioned warnings are not complied with.

IMPORTANT!!!
CLEAN THE ENTIRE SYSTEM BEFORE CONNECTING THE BOILER, IN ORDER TO REMOVE ALL RESIDUE AND DEPOSITS.
Upstream from the stove, always install shutters so as to disconnect it from the plumbing system should it be necessary to move it, or when it requires routine and/or special maintenance.
Connect the stove using hoses so that the stove is not too strictly connected to the system, and to allow slight movements.

CLEANING THE SYSTEM

In order to protect the thermal system against harmful corrosion, scale or deposits, it is essential to clean the system in accordance with standard UNI-CTI 8065 before installing the appliance, using appropriate products like Sentinel X300 (new systems), X400 and X800 (old systems) or Fernox Cleaner F3.
Complete instructions are provided with the products but it is possible to contact the manufacturer SENTINEL PERFORMANCE SOLUTIONS LTD or FERNOX COOKSON ELECTRONICS directly for further information. After cleaning the system, it is recommended to use Sentinel X100 or Fernox Protector F1 inhibitors to protect it against corrosion and deposits.
It is important to check the concentration of the inhibitor after making any changes to the system and during maintenance checks, following the recommendations of the manufacturers (the retailers can offer tests).
The outlet of the safety valve has to be connected to a collection intake for purging in the event of maintenance.

Attention: Failure to clean the thermal system or to use an adequate inhibitor will invalidate the warranty of the appliance and of the other accessories like the pump and valves.

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2- FILLING THE SYSTEM

FILLING THE SYSTEM

Fill the system slowly to allow air bubbles to pass through the vent holes of the heating system. For closed circuit heating systems, the filling pressure of the system at cold and the pre-inflation pressure of the expansion tank must be the same.

- The water used for filling the heating system must be decontaminated and not contain air.

Attention!
Do not mix heating water with incorrect concentrations of anti-freeze or anti-corrosion substances! This could damage the gaskets and cause noise during operation.

After making all the hydraulic connections, pressure-test the seals by filling the boiler.

Before filling, check the filling pressure of the expansion tank.

This must be done with care by doing the following:

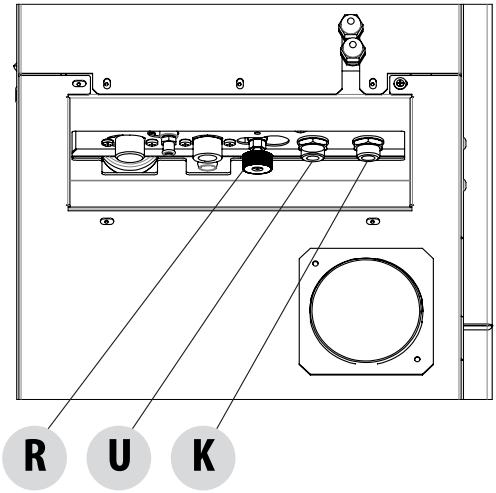
- open the air vent valves of the radiators, boiler and system;
- gradually open the filling tap of the system, making sure that any automatic air vent valves in the system work correctly;
- close the vent valves of the radiators as soon as water comes out;
- check at the pressure gauge of the system that the pressure reaches 1 bar approx.
- close the filling tap of the system and then open the vent valves of the radiators again to purge any air;
- check the seal of all the connections;
- after starting up the boiler for the first time and bringing the system up to temperature, stop the pumps and repeat the air purging procedure;
- allow the system to cool down and, if necessary, bring water pressure back up to 1 bar;

2- FILLING THE SYSTEM

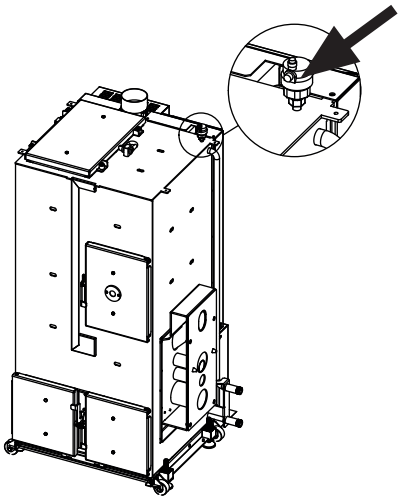
Fill the heating system manually using the tap with check valve in the hydraulic kit.

- Connect or plug the H_2O hot outlet "**U**".
- Connect the H_2O cold input "**K**" to the system.
- Open the tap "**R**".

This operation does not need to be done if the system already has an automatic or manual filling valve.
During this operation, any air in the system is released from the automatic vent valve located at the top of the body of the boiler.



To allow the valve to purge, unscrew the side cap by 1/2 a turn. (see figure)
The filling pressure of the system **WHEN COLD** must be 1 bar.
Upon completion of this operation, **always** close the tap.



PURGE VALVE WITH SIDE CAP UNSCREWED BY 1 TURN

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3 - GENERAL WARNINGS

GENERAL PRECAUTIONS

The electrical safety of the system is guaranteed only when this is connected correctly to an efficient earthing system installed in accordance with the safety standards in force: the pipes of the gas, water and heating systems do not constitute a suitable earth system. It is necessary to ensure this essential safety requirement; if in doubt, have a qualified technician test the electrical system with care because the manufacturer of the boiler does not assume responsibility for damage caused by the absence of an earthing system.
A qualified technician should check that the electrical system is compatible with the max consumption of the system, checking in particular that the cross-section of the cables of the system is compatible with the power consumption of the loads.
The use of any component that requires electrical energy requires compliance with certain essential rules like:

- do not touch the appliance with wet and/or damp parts of the body and/or when barefoot;
- do not pull on the electrical cables;
- do not expose the appliance to the elements (rain, sun, etc.);
- do not allow children or inexperienced persons to use the appliance.

Connection to 230V power supply.

The installation of additional electrical components of the boiler requires electrical connection to a**230V - 50Hz**power supply: This connection must be done in accordance with the national standards in force.

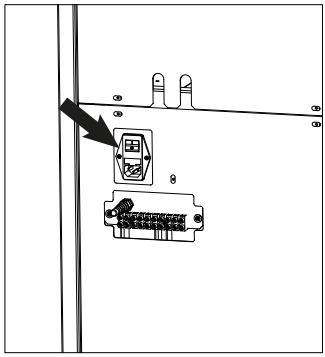
Danger!
Electrical installation must be entrusted to a single qualified technician.
Before making the connections or carrying out any work on the electrical parts, always turn off the power supply and make sure it cannot be turned on again accidentally.

The power cable must be replaced only by an authorised technician. Failure to observe the above could compromise the safety of the appliance.

ELECTRICAL CONNECTION

Connect the power cable first to the back of the tank and then to the electrical mains.
The main switch at the back is simply for turning on the boiler.

It is recommended to disconnect the power cable when the boiler is not used.



ELECTRICAL CONNECTION

3 - GENERAL WARNINGS

BEFORE START-UP
GENERAL PRECAUTIONS

After a long period of inactivity, **use a vacuum cleaner with long tube** to remove any traces of pellets in the tank that could have absorbed humidity and are no longer suitable for combustion.

The first start-up may not be successful as the feed screw is empty and does not always manage to load the required amount of pellets in the brazier to reach the threshold temperature, despite the presence of fire.

It is good practice to guarantee effective ventilation in the room during the initial start-up, as the boiler will emit some smoke and smell of paint.

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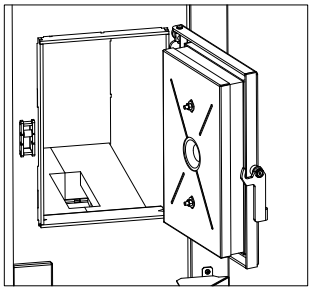
3 - GENERAL WARNINGS

OPENING/CLOSING THE DOOR OF THE FIREBOX

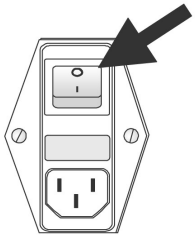
ATTENTION!
The door of the firebox should be opened only when the boiler is cold and at standstill, and only when removing the ash.
The door must be closed properly for the boiler to work correctly.

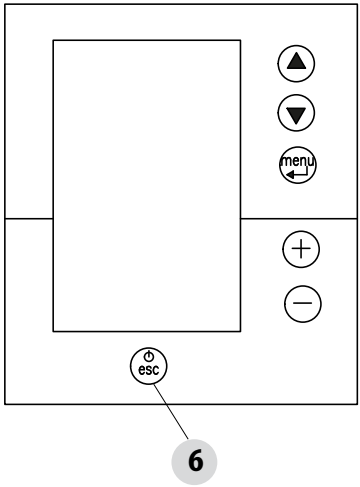


OPENING THE DOOR OF THE FIREBOX

To open the internal door, lift and pull the handle towards yourself.

SETTINGS TO BE CARRIED OUT BEFORE THE INITIAL START-UP





After connecting the power cable to the back of the product, turn the switch at the back to position(**I**). Turn the boiler on or off at button 6 on the control panel.

4 - LOADING THE PELLETS

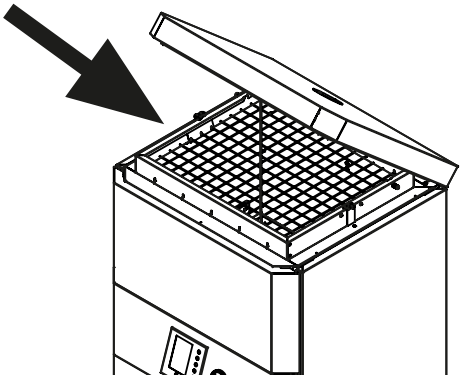
LOADING THE PELLETS

The pellets can be loaded either manually or automatically. The tank can contain up to 210 litres or 140 kg of pellets.

Manual loading (Logika):

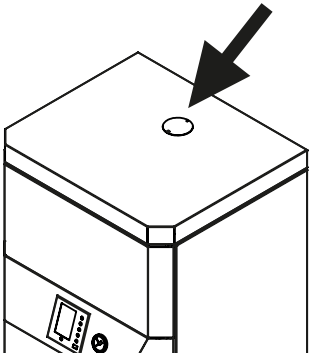
- Open the top cover of the tank and pour in the pellets.

In the interest of convenience, it is possible to put the bag (15 kg) on the grate and cut it.



Automatic loading (with remote tank of 100/200 or 400 kg - optional - see accessories):

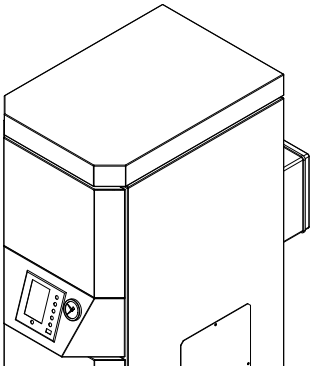
- Remove the round plate from the door, cut the insulation and insert the pipe of the filler. Next, load with the optional tank.



Never remove the protective grate from inside the tank. When loading pellets, keep the bag from coming into contact with hot surfaces.

AUTOMATIC PELLET LOADING OF LOGIKA REFILL

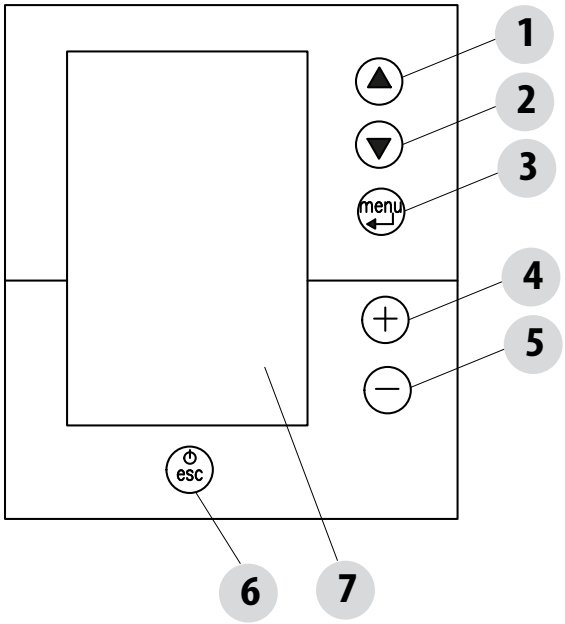
Refer to section 3 of the manual for automatic pellet loading with the BIG-BAG system.



AUTOMATIC LOADING OF LOGIKA REFILL

2 - MENU OPTIONS

CONTROL PANEL DISPLAY
Menu options



KEY

1. Scrolling up through the programming menu. 2. Scrolling down through the programming menu 3. Menu/confirmation. 4. Increase set / programming functions	5. Decrease set / programming functions 6. Start/stop boiler/exit menu 7. Display.

MAIN MENU

Press key 3 (menu) to access. The options accessed by pressing keys 1 or 2 are:

- Date and Time
- Timer
- Settings
- Info

Date and time configuration

Configure the time and date as follows:

- Press the "menu" key.
- Select "Date and Time".
- Press "menu" to confirm.
- Scroll through with the arrow keys and press the menu key to select the variables to be edited: Day, Hour, Min, Num. day, Month, Year.
- Use the + and - keys to edit.
- Press "menu" to confirm and move to the next variable.
- Press "esc" to exit when you have done.

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2 - MENU OPTIONS

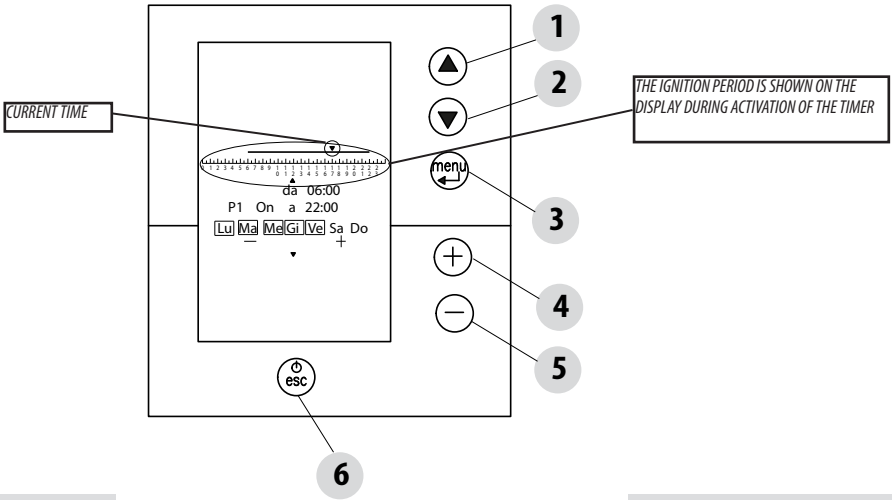
CONFIGURATION OF PROGRAMMED MODE (TIMER) - Main menu

The current time and date must be configured to ensure correct operation of the timer.

There are six configurable TIMERS; for each one, the user can select a start and stop time and the days of the week when it is in use.
When one or more programs are active, the status of the boiler and the TIMER "n" alternate on the display. "n" is the number of timer programs in use, separated by dashes.
Example:
TIMER 1 Timer 1 program active.
TIMER 1-4 Timer 1 and 4 programs active.
TIMER 1-2-3-4-5-6 All timer programs active.
EXAMPLE OF PROGRAMMING
With the boiler on or off:

- access the MENU,
- use the arrow keys (**1** and **2**) to scroll through to the TIMER option,
- Press the "Menu" key
- The system proposes "P1" (Press keys **1** and **2** for timers P2, P3, P4, P5 and P6).
- Press the "Menu" key to activate "P1".
- press + - and select "ON"
- press the "Menu" key to confirm

At this point the start time is 00:00. Press the + - key to set the start time and press the "menu" key to confirm.
Next, the proposed stop time is 10 minutes later than the configured start time: press the + key and edit the stop time, and press the "menu" key to confirm.
Next, you are asked to set the days of the week when the configured timer is to be enabled or disabled. Use the - or + key to select the day on which to enable the timer and press the "menu" key to confirm. The selected day is highlighted. If no day is selected for enabling the timer, the timer program is no longer enabled on the status window.
Next, program the other days or press "ESC" to exit. Repeat this procedure to program the other timers.
Example of Timer window (boiler on from 6:00 to 22:00, Monday to Friday:



2 - MENU OPTIONS

NOTES ON USE OF THE TIMER

- The start time can be between 00:00 and 23:50
- If the stop time has not yet been saved, the program proposes a start time at +10 minutes.
- If a timer program stops the boiler at 24:00 on one day and another program starts it up at 00:00 on the next day: the boiler remains ON.
- If a program proposes start-up and/or shut-down at times in another timer program: if the boiler is already on, the start has no effect while OFF turns off the boiler.
- When the boiler is on and the timer is active, pressing the OFF key turns off the boiler; the boiler then restarts automatically at the next time of the timer.
- When the boiler is off and the timer is active, pressing the ON key turns on the boiler; the boiler then stops automatically at the next time of the timer.

EXAMPLES OF PROGRAMMING

P1			P2		
on	off	day	on	off	day
08:00	12:00	Monday	11:00	14:00	Monday
Boiler on between 08:00 and 14:00					

P1			P2		
on	off	day	on	off	day
08:00	11:00	Monday	11:00	14:00	Monday
Boiler on between 08:00 and 14:00					

P1			P2		
on	off	day	on	off	day
17:00	24:00	Monday	00:00	06:00	Tuesday
Boiler on between 17:00 on Monday to 06:00 on Tuesday					

SETTINGS MENU

The SETTINGS menu is for configuring use of the boiler:

a. Language.
b. Cleaning (shown only when boiler is off).
c. Auger loading (shown only when boiler is off).
d. Auto Eco.
e. Eco off T
f. Pump on T
g. Pellet recipe.
h. Max power
i. Component test (shown only when boiler is off).
j. Lambda test (shown only when boiler is off).
k. "Chimney sweeper" function (can be enabled only when boiler is on, for checking emissions in field).
l. System configuration (factory settings: system 02).
m. Season
n. Solar (on/off for configurations 4-6).
o. Technical menu.

NOTE: Some of the options listed above cannot be enabled in certain "system configurations".

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2 - MENU OPTIONS

a - Language

Select the language as follows:

- Press the "menu" key.
- Use the arrow keys to scroll through and select "Settings"
- Press "menu" to confirm.
- Use the arrow keys to scroll through and select "language".
- Press "menu" to confirm.
- Use the + - keys to select the required language (IT/EN/DE/FR/ES/NL/PL/DA)
- Press "menu" to confirm and "esc" to exit.

b - Cleaning

This function can be enabled only when the stove is off. When enabled, the following operations are carried out automatically:
- Brazier rotation (removal of residual ash)
- Turbolator activation (when applicable)
- Smoke Fan Activation (intake of ash removed with turbolators)
- Activation of ash drawer motors (when applicable)

The 180" countdown is shown on the display during these steps and it is not possible to do any other operations at the same time (the countdown cannot be stopped). A sound signals the end of the countdown.
Select "Cleaning" (only with boiler off) as follows:

- Press key 3 "menu".
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 "menu" to confirm.
- Use the 1-2 arrow keys to scroll through and select "Cleaning".
- Press 3 "menu" to confirm.
- Use keys 4 (+) and 5 (-) to select "On".
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

Refer to chapter 11 "Cleaning and Maintenance".

c - Load auger

This is for filling the the pellet loading system. This can be enabled only when the boiler is off. A countdown appears. The auger stops automatically at the end of the countdown and the menu closes.
Select ''Load auger'' (only with boiler off) as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 "menu" to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Load auger''.
- Press 3 "menu" to confirm.
- Use keys 4 (+) and 5 (-) to select ''Enable''.
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

Note: There is a delay between activation and start-up of the auger during which time the fire damper opens.

2 - MENU OPTIONS

d - Auto-Eco

The Auto-Eco function turns the boiler off automatically at the configured time of the "Eco Stop T" parameter when no heat is required by the devices connected to the boiler: external thermostat (configurations 1-2-3), flow switch (configuration 2), thermostat/puffer probe (configuration 5-6) or thermostat/boiler probe (configuration 3-4). If all the devices present are satisfied, the "ECO stop T" timer starts to count down.
When the boiler turns off, ECO - ECO ACTIVE appears on the panel.
The following conditions have to be met simultaneously for the ECO to restart:

- Power recall
- 5 minutes have passed since shut-down.
- $TH_2O < TSetH_2O$.

NOTE: In certain system configurations, it can be useful to disable automatic shut-down of the boiler (e.g. in configurations 2 or 3) and keep the system running at minimum power. In other configurations, this function cannot be disabled.

Disable the Auto-Eco function as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Auto-Eco''.
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to select ''Off''.
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

e - Eco stop T (Eco stop time)

The "ECO stop T" can be adjusted to ensure correct operation of the system in which the boiler is installed and to avoid constant stopping and starting when heat requirements are subject to change suddenly.
Select the Eco stop T function as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Eco stop T''.
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to enter the minutes.
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

f - Pump On T (pump temperature) (ONLY FOR EXPERIENCED USERS)

This option enables adjustment of the pump activation temperature.
Select the Pump On T function as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Pump On T''.
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to enter the °C.
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

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g - Pellet Recipe

This function is for adapting the boiler to the type of pellet in use. As there are many types of pellet available on the market, the operation of the boiler can vary considerably according to the quality of the fuel. When the pellets clog up the brazier due to excess loading of fuel or when the flames are high even at low power, or when the flames are low, it is possible to decrease/increase the amount of pellets in the brazier:

Available values:

-30% = A decrease of 30% on the factory setting.
-20% = A decrease of 20% on the factory setting.
-10% = A decrease of 10% on the factory setting.
0 = No changes.
10% = An increase of 10% on the factory setting.
20% = An increase of 20% on the factory setting.
30% = An increase of 30% on the factory setting.

Edit the recipe as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Pellet recipe''.
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to enter the %.
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

h - Max power (only for experienced users)

Sets the max power limit of the flames which the boiler can use to reach the configured target temperature.

Modify the power as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select ''Max power''.
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to modify the power between 01 and 05.

Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

2 - MENU OPTIONS

i - Component test

This can be done only when the boiler is off and allows you to select the components to be tested:

- **Spark plug:** runs for a test time during which the panel shows the countdown timer in seconds.
- **Auger:** this is fed for a test time during which the panel shows the countdown time in seconds.
- **Aspirator:** this is run at 2500 rpm for a test time during which the panel shows the countdown time in seconds.
- **Pump:** this is run for a test time during which the panel shows the countdown time in seconds.
- **3 way:** the 3-way valve is run for a test time during which the panel shows the countdown time in seconds.

NOTE: The technician can stop the test time whenever by quickly pressing the ON/OFF key.

Enable the "Component test" function (only with boiler off) as follows:

- Press key 3 ''menu''.
- Use the arrow keys to scroll through and select "Settings"
- Press 3 "menu" to confirm.
- Use the arrow keys to scroll through and select ''Component test''
- Press 3 "menu" to confirm.
- Use the + - keys to select the test to be carried out.

Press "menu" to confirm and "esc" to exit

j - Lambda Test (can only be activated when the stove is off)

This function only be activated when the boiler is off. When activated, the fan runs at maximum and the Lambda probe is powered. This state lasts for 60" and the countdown is shown on the panel.
NOTE: The technician can stop this phase at any moment by quickly pressing the on/off key.
The percentage of oxygen detected by the lambda probe is shown on the display.

k - Chimney sweeper function (for maintenance workers only)

This function can only be activated when the boiler is off and power is supplied, and it forces operation of the boiler at the parameters required by the standards.
Attention: During this state (20 minutes, when the countdown is shown on the panel) the actions of the ambient thermostat/puffer/ ambient set point/ H_2O set point have no effect.
All the safety devices remain active. The boiler turns off automatically when the water temperature reaches 85°C.
The technician can stop this pressing the phase at any moment by quickly

Enable the "Chimney sweeper" function as follows:

- Press the ''menu'' key.
- Use the arrow keys to scroll through and select "Settings"
- Press "menu" to confirm.
- Use the arrow keys to scroll through and select ''Chimney sweeper function''
- Press "menu" to confirm.
- Use the + - keys to select "On" (Off by default)
- Press ''menu'' to confirm and ''esc'' to exit.

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2 - MENU OPTIONS

l - System configuration (see dedicated chapter)

Modify the system configuration (with the boiler off) as follows:

- Press the ''menu'' key.
- Use the arrow keys to scroll through and select "Settings"
- Press 3 "menu" to confirm.
- Use the arrow keys to scroll through and select ''System configuration''
- Press 3 "menu" to confirm.
- Use the + - keys to modify the configuration between 01 and 06.
- Press "menu" to confirm and "esc" to exit.

m - Season

In configurations 2, 3 and 4, enabling the "summer" function disables deviation of the 3-way valve towards the heating system to prevent the radiators from heating up, and so the flow is always towards the hot water system (ACS).

Modify the function as follows:

- Press the ''menu'' key.
- Use the arrow keys to scroll through and select "Settings"
- Press 3 "menu" to confirm.
- Use the arrow keys to scroll through and select ''Season''
- Press 3 "menu" to confirm.
- Use the + - keys to select "Summer" or "Winter".
- Press "menu" to confirm and "esc" to exit.

n - Solar

The integrated solar power system can be enabled only in system configurations 4 and 6.
The solar system must be configured by a qualified technician.

0 - Technical menu (for assistance ccentres only)

A password is required to access the technical menu
Access the "technical menu" as follows:

- Press the ''menu'' key.
- Use the arrow keys to scroll through and select "Settings"
- Press 3 "menu" to confirm.
- Use the arrow keys to scroll through and select ''Technical menu''
- Press 3 "menu" to confirm.
- Enter the password
- Use the + - keys to select "Product type", "Service", "Parameters", "Sanitary Par", "Counter memories", "Puffer data" and "Climatic curve" and make any necessary changes.

6 - ADJUSTMENTS MENU

ADJUSTMENTS MENU

Press the + or - keys (keys 4 or 5) to access the menu for changing the temperature settings of the set system configuration.
Configuration 1-2-3-4-5 Water temperature in boiler
Configuration 4 Boiler water temperature
Configuration 6 Puffer water temperature
Edit as follows:

- + or - key
- Scroll through with the arrow keys and select the temperature to be edited (when applicable)
- Press menu
- Use the + or - keys to edit the temperature
- Press “menu” to confirm.

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7 - SYSTEM CONFIGURATION

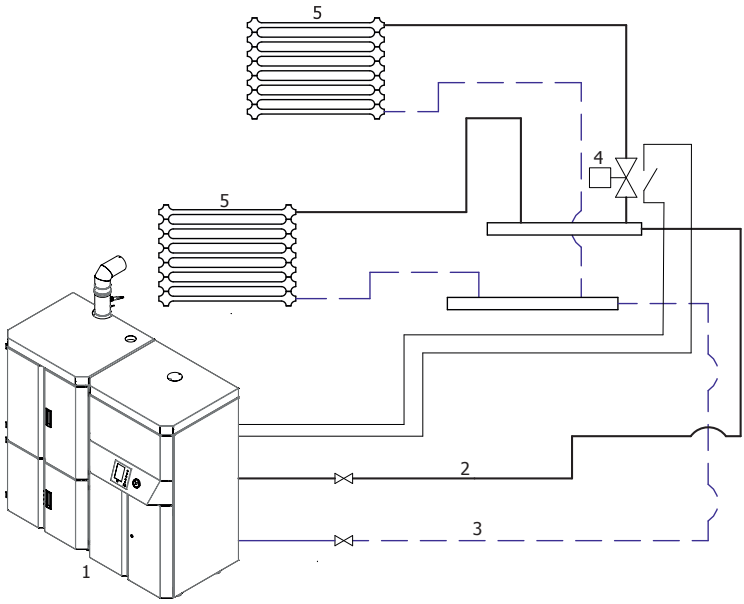
SYSTEM CONFIGURATIONS

At the time of installation, the product must be configured according to the type of system by selecting the relative parameter in the technical menu.

There are 6 possible configurations, described below:

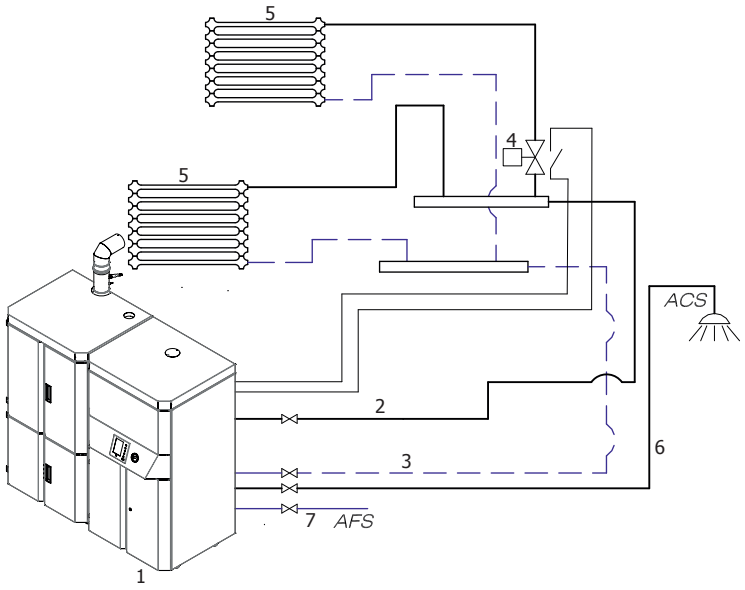
Configuration	Description
1	Ambient temperature management with external ambient thermostat
2	Ambient temperature management with external ambient thermostat; instant production of hot sanitary water with plate exchanger in FACTORY CONFIGURATION.
3	Ambient temperature management with external ambient thermostat; production of hot sanitary water for boiler with thermostat and 3-way diverter valve (optional).
4	Ambient temperature management with external ambient thermostat; production of hot sanitary water with boiler with ntc probe (10 kΩ ß3435) and 3-way diverter valve (optional).
5	External Puffer management controlled by thermostat (optional).
6	External puffer management controlled by ntc probe (10 kΩ ß3435) (optional).

CONFIGURATION 1

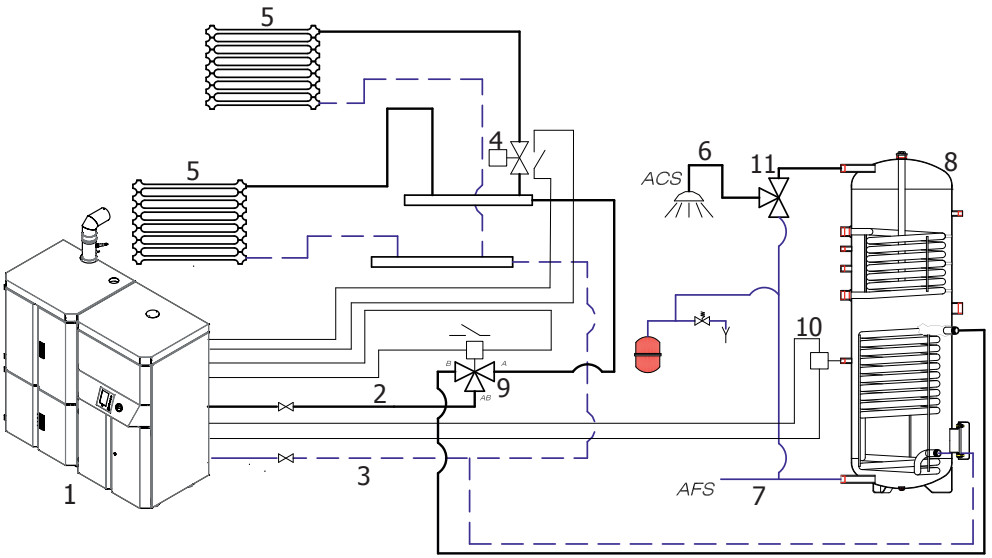


7 - SYSTEM CONFIGURATION

CONFIGURATION 2 (FACTORY SETTING)

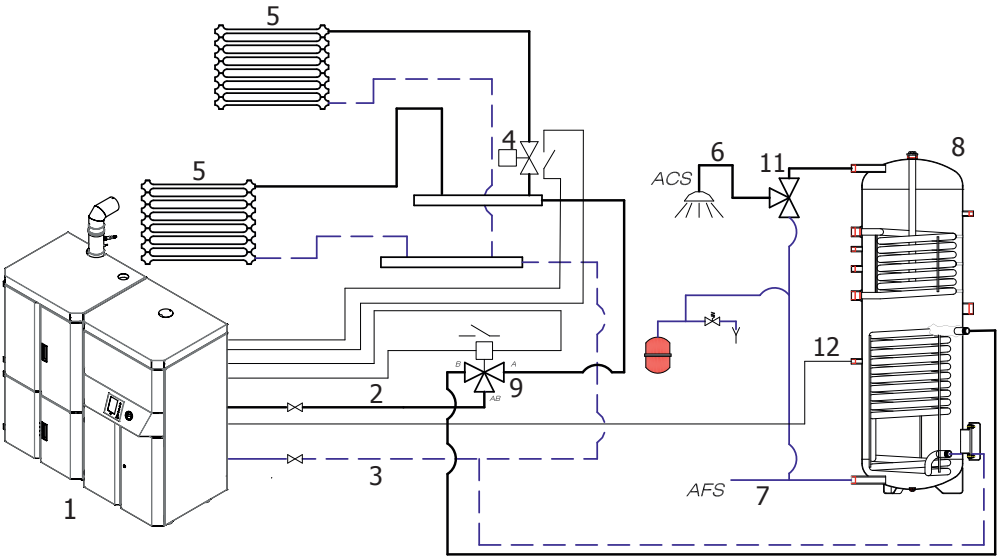


CONFIGURATION 3

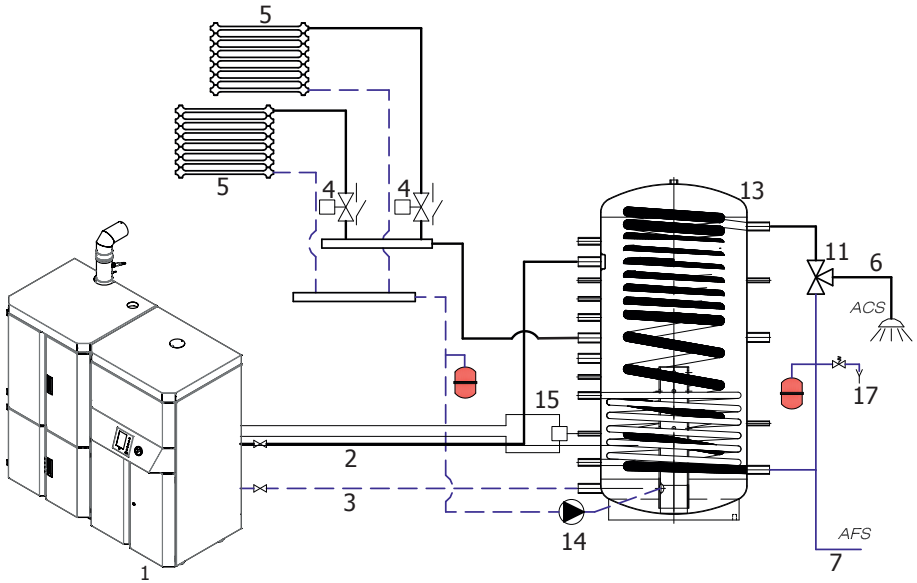


7 - SYSTEM CONFIGURATION

CONFIGURATION 4



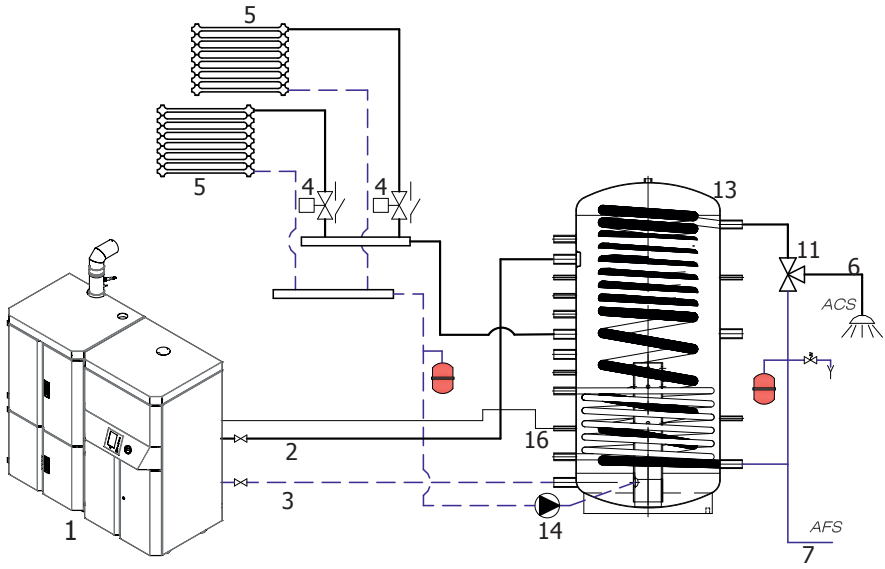
CONFIGURATION 5



NOTE: TO ENSURE CORRECT OPERATION IN THIS CONFIGURATION, THE PUFFER THERMOSTAT HAS TO BE SET AT A VALUE BELOW THE "WATER T SET".

7 - SYSTEM CONFIGURATION

CONFIGURATION 6



1	LOGIKA BOILER
2	HEATING DELIVERY
3	HEATING RETURN
4	ZONE VALVE
5	HEATING BODIES
6	HOT SANITARY WATER
7	COLD SANITARY WATER
8	SANITARY WATER BOILER
9	DIVERTER VALVE
10	BOILER THERMOSTAT
11	THERMOSTATIC MIXER VALVE
12	NTC PROBE 10 kΩ β3434 SANITARY WATER
13	HEATING PUFFER
14	HEATING SYSTEM CIRCULATOR
15	PUFFER THERMOSTAT
16	NTC PROBE 10 kΩ β3434 PUFFER
17	SAFETY VALVE

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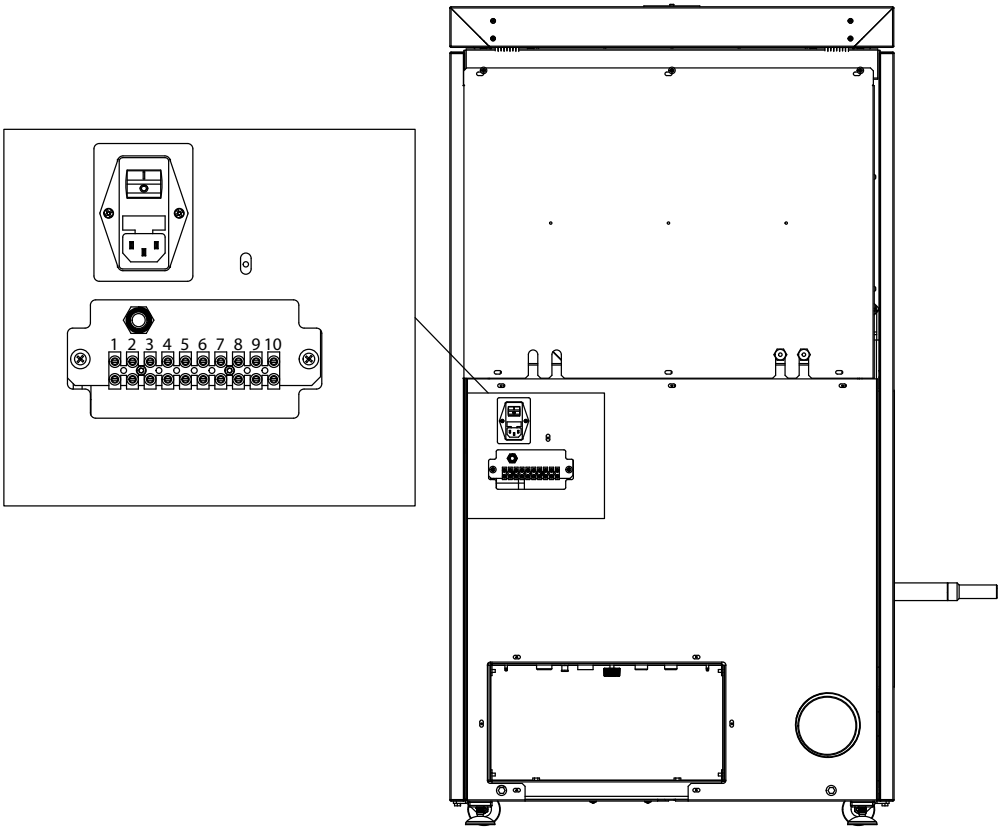
8 - ELECTRICAL CONNECTION

AUXILIARY BOILER
Positions 6-7 have a N.C. contact (Max 3A) for enabling an auxiliary boiler when the pellet boiler is turned off or in alarm mode.

ELECTRICAL CONNECTIONS



TERMINAL BLOCK CONTACTS	
POS.1-2 EXTERNAL THERMOSTAT/PUFFER THERMOSTAT CLEAN CONTACT	POS.8 NEUTRAL THREE-WAY VALVE 230 Vac
POS.3-4 PUFFER/BOILER PROBE	POS.9 THREE-WAY VALVE PHASE (sanitary) 230 Vac
POS.5 EARTHING	POS.10 THREE-WAY VALVE PHASE (heating) 230 Vac
POS.6-7 ADDITIONAL BOILER CLEAN CONTACT	

9 - START-UP/SHUT-DOWN

START-UP

Press key 6 (esc) to start up. The display on the panel is ON with the flame blinking. When the flame stops blinking, the boiler has reached the operating condition for "supplying power".

SUPPLY OF POWER

The boiler positions itself at flame level 3 at the end of the ignition phase Subsequent modulation of the flame to lower or higher power is controlled automatically on the basis of the heat requirements of the connected devices and on the basis of the set system configuration.

EXTINCTION (on the panel: OFF with blinking flame)

When the extinction key is pressed, or when there is an alarm signal, the boiler enters the thermal extinction phase with involves automatic execution of certain tests before the boiler can be considered extinguished.

BLACKOUT with boiler ON

In the event of a blackout, the boiler does the following:

- Blackout of less than 10": continues the work in progress;
- After a blackout of more than 10" which occurred when the boiler was on, or being ignited, the boiler reverts to its previous operating condition.

BLACKOUT OF MORE THAN 10" DURING EXTINCTION OF BOILER

After a blackout of MORE THAN 10'' when the boiler was in the process of extinction, the boiler continues its extinction phase.

SAFETY EXTINCTION

When the water in the boiler reaches 85°C, the boiler stops after 10" and "OFF Stand-by" appears on the panel.
Re-ignition can occur when these conditions are met simultaneously:

- At least 5 minutes have elapsed from when shutdown began;
- the water temperature is below the H20 set T
- the set configuration requires power (for heating or sanitary water)

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10 - SAFETY DEVICES AND ALARMS

SAFETY DEVICES

The product is supplied with the following safety devices:

SMOKE PRESSURE GAUGE

Monitors pressure in the smoke duct. It is designed to shut down the boiler in the event of an obstructed flue or significant back-pressure (from the wind).

WATER PRESSURE GAUGE

Check that there is sufficient pressure in the hydraulic system.

OVERPRESSURE VALVE

Discharges water from the system in the event of overpressure.
Attention! Can emit hot liquid which is ducted.

SMOKE TEMPERATURE PROBE

Detects the temperature of the smoke, thereby enabling start-up or stopping the product when the temperature drops below the preset value.

CONTACT THERMOSTAT IN THE FUEL DUCT

If the temperature exceeds the preset safety level, it immediately shuts down the running of the boiler.

WATER CONTACT THERMOSTAT

If the temperature exceeds the preset safety level, it immediately shuts down the running of the boiler.

WATER TEMPERATURE SENSOR

When the water reaches the stop temperature (85°C) the sensor signals to the boiler to turn off and go into standby automatically.

ELECTRICAL SAFETY

The boiler is protected against violent changes in current by two main fuses which are located in the start switch at the back of the boiler. Other fuses that protect the electronic boards are found on the latter.

SMOKE FAN

If the fan stops, the electronic board shuts off the supply of pellets in good time, and an alarm message is displayed.

GEAR MOTOR

If the reduction motor stops, the boiler will continue to run until the flame goes out due to lack of fuel and until a minimum level of cooling is reached.

TEMPORARY POWER CUT

When a power cut is less than 10" the boiler returns to its previous operating state; if it is more, it executes a cooling/re-ignition cycle.

FAILED START-UP

If during ignition the preset smoke temperature is not reached, the boiler will go into alarm condition.

ANTI-FREEZE FUNCTION

If the probe in the boiler detects a water temperature of less than 5°C, the circulation pump is automatically activated to keep the system from freezing.

PUMP ANTI-SEIZURE FUNCTION

If the pump is not used for prolonged periods, it is activated periodically for a few seconds to keep it from seizing up.

10 - SAFETY DEVICES AND ALARMS

TAMPERING WITH THE SAFETY DEVICES IS PROHIBITED

If the product is NOT used as described in this instruction manual, the manufacturer declines all liability for any damage caused to persons and property. The manufacturer furthermore refuses to accept responsibility for damage to persons and property arising from the failure to observe all the rules contained in the manual and in particular:

- ***All the necessary measures and/or precautions must be adopted when performing maintenance, cleaning and repairs.***
- ***Do not tamper with the safety devices.***
- ***Do not remove the safety devices.***
- ***Connect the product to an efficient smoke expulsion system.***
- ***First, check that the environment where it is to be installed is properly ventilated.***

Only after eliminating the cause of the intervention of the safety system is it possible to relight the product and thus restore its automatic operation. This manual will help you understand which anomaly has occurred, and explain how to intervene according to the alarm message displayed on the appliance.

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10 - SAFETY DEVICES AND ALARMS

ALARM SIGNALLING

When a condition occurs other than the one expected for regular operation of the boiler, an alarm is triggered.
The reason for the alarm is given on the control panel. The sound signal is not enabled for alarms A01-A02 in order not to disturb the user when there is an absence of pellets in the night tank.

Panel signalling	type of problem	Solution
A01	The fire does not ignite.	Check the level of pellets in the tank.
A02	Flame extinction.	Check the level of pellets in the tank.
A03 **Pellet thermostat alarm**	The temperature of the pellet duct exceeds the required safety threshold.	Wait until the end of the cooling phase, stop the alarm and re-ignite the boiler setting the supply of fuel to minimum (SETTINGS menu - pellet recipe). If the alarm persists, contact the service centre.
A04	Smoke overtemperature	The set smoke threshold has been exceeded. Reduce the load of pellets (SETTINGS menu - Pellet recipe).
A05 **Water pressure gauge alarm**	Insufficient water pressure.	Check the pressure of the hydraulic system. Load the system.
A06 **Smoke pressure gauge alarm**	Smoke pressure gauge intervention	Check for obstruction in chimney.
A07	Ash drawer not installed correctly.	Check the ash drawer; if the problem persists call the assistance centre.
A08 **Smoke aspirator broken alarm**	Anomalous operation of smoke fan.	Delete the alarm and switch the boiler on again. If the alarm persists, contact the service centre.
A09	Fault with the smoke sensor.	Delete the alarm and switch the boiler on again. If the alarm persists, contact the service centre.
A10	Grate not closed	Clean and switch the boiler on again. If the alarm persists, contact the service centre.
A11 **Auger alarm**	Fault with supply of auger or anomalous loading.	Auger working continuously or faulty printed circuit board. Call the assistance centre.
A13 **Intervention of H_2O safety thermostat**	H_2O thermal safety device This alarm is triggered when the water in the system does not circulate and the temperature increases as a result.	Check and release the pump if necessary. Contact the assistance centre if necessary to have the component replaced.
A18 **Water overtemperature alarm**	Water tank temperature too high. This alarm is triggered when the water in the system does not circulate and the temperature increases as a result.	Check and release the pump if necessary. Call the assistance centre to have the component replaced.
A19 **Water sensor alarm**	Fault with water sensor.	Water sensor detached / interrupted / defective / not recognised. Call the assistance centre.

10 - SAFETY DEVICES AND ALARMS

A20 **Puffer probe alarm**	Fault with puffer probe.	Puffer probe detached / interrupted / defective / not recognised. Call the assistance centre.
A21 **Puffer probe 2 alarm**	Fault with puffer probe 2.	Puffer probe detached / interrupted / defective / not recognised. Call the assistance centre.
A22 **Solar panel sensor alarm**	Fault with solar panel sensor.	Solar sensor detached / interrupted / defective / not recognised. Call the assistance centre.
A23 **External sensor alarm**	Fault with external sensor.	Sensor detached / interrupted / defective / not recognised. Call the assistance centre.
A24 **Lambda sensor alarm**	Fault with lambda sensor	Lambda sensor detached / interrupted / defective / not recognised. Call the assistance centre.
A29 **Auger encoder alarm**	There is incorrect feedback between the encoder, geared motor and board.	Detached auger encoder.
A30	Internal electronics communication alarm	Delete the alarm and switch the boiler on again. If the alarm persists, contact the service centre.
Service	Routine maintenance warning (does not seize)	When this blinking message appears upon start-up, it means it is time to carry out scheduled maintenance. Call the assistance centre.

ALARM RESET

To reset the alarm, press and hold key 6 (ESC) for a few seconds. The boiler checks whether the cause of the alarm is ongoing.
In the first case, the alarm continues to be displayed, in the second case it turns OFF.
If the alarm persists, contact a service centre.

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11 - MAINTENANCE AND CLEANING

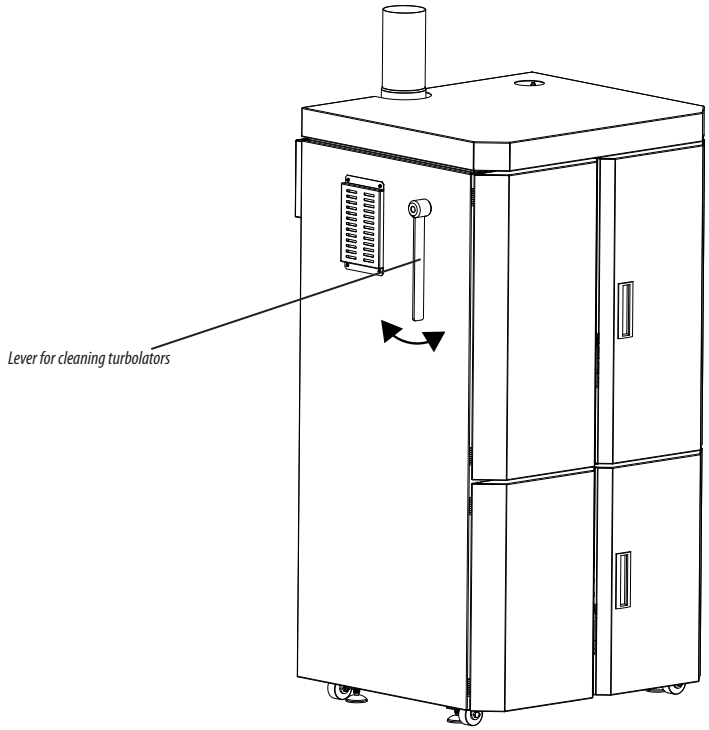
WEEKLY AND MONTHLY CLEANING PERFORMED BY THE USER BEFORE EACH START-UP

All cleaning must be carried out with the boiler cold.

Before cleaning the boiler check that it is equipped with the Easy Clean kit (automatic discharge of ash and/or automatic turbolators).

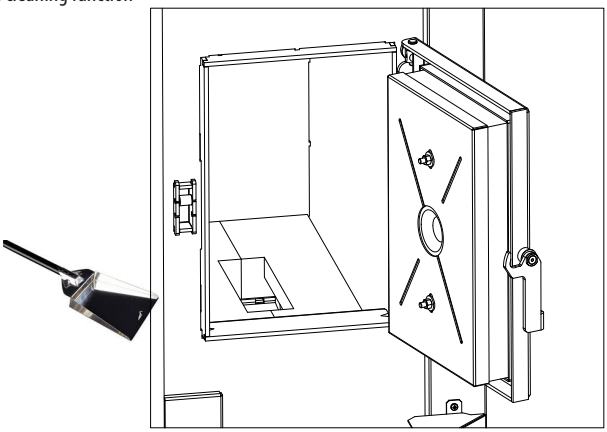
In the case of a Logika boiler without Easy Clean kit, proceed as follows:

- move the lever on the left side of the boiler forcefully 3-4 times to start cleaning of the turbolators and to make any ash deposits fall into the drawers.



11 - MAINTENANCE AND CLEANING

- open the door on the firebox and use an iron pallet to move any residual ash into the hole of the firebox. In this way, the ash is deposited in the bottom ash drawers by the end of the automatic cleaning phase.
- enable the cleaning function



This function can be enabled only when the stove is off. When enabled, the following operations are carried out automatically:
- Brazier rotation (removal of residual ash)
- Turbolator activation (when applicable)
- Smoke Fan Activation (intake of ash removed with turbolators)
- Activation of ash drawer motors (when applicable)

The 180'' countdown is shown on the display during these steps and it is not possible to do any other operations at the same time (the countdown cannot be stopped). A sound signals the end of the countdown.
Select "Cleaning" (only with boiler off) as follows:

- Press key 3 ''menu''.
- Use the 1-2 arrow keys to scroll through and select ''Settings''
- Press 3 “menu” to confirm.
- Use the 1-2 arrow keys to scroll through and select "Cleaning".
- Press 3 “menu” to confirm.
- Use keys 4 (+) and 5 (-) to select "On".
- Press 3 ''menu'' to confirm and 6 ''esc'' to exit.

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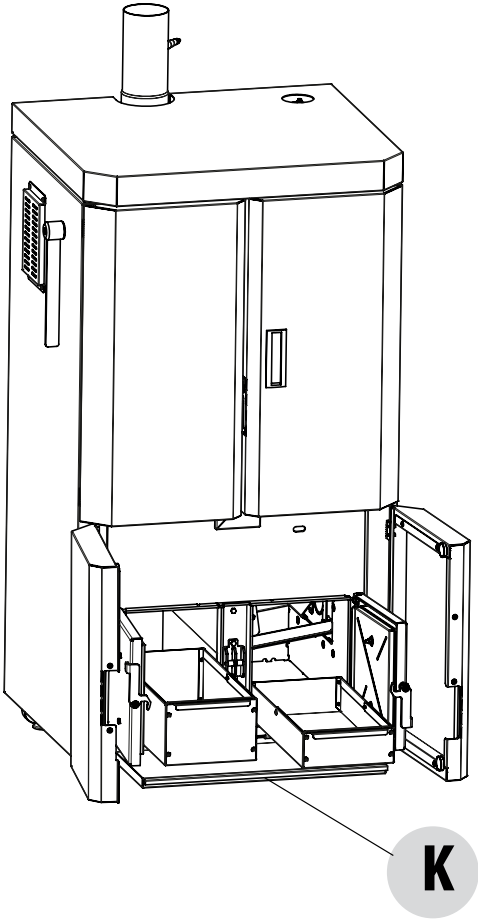
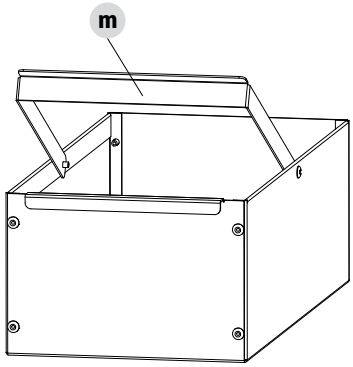
11 - MAINTENANCE AND CLEANING

At the end of the cleaning cycle:

- Open the bottom aesthetic doors
- Remove the ash tray "**K**" from under the boiler.
- Open the doors of the boiler.
- Remove the ash drawers.
- Use the handle "**m**" to take the drawers to the emptying area.
- Using the slide, remove traces of ash and put these in the ash tray "**K**".
- Empty the tray and put it back in place.
- Fold the handle "**m**" of the drawers and put these back in place.





ATTENTION!! Small drawer to the right/large drawer to the left.

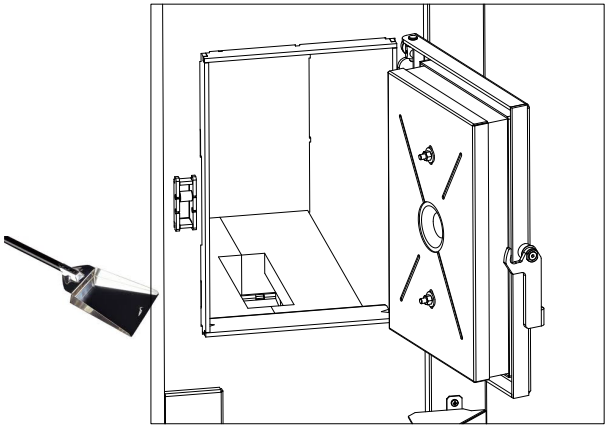
The ash drawers and turbolators (using the lever) are to be cleaned once every seven days while the firebox is to be cleaned about once a month.

ATTENTION DANGER OF FIRE!
Do not dispose of hot ash in a waste basket or in the environment in uncontrolled areas.

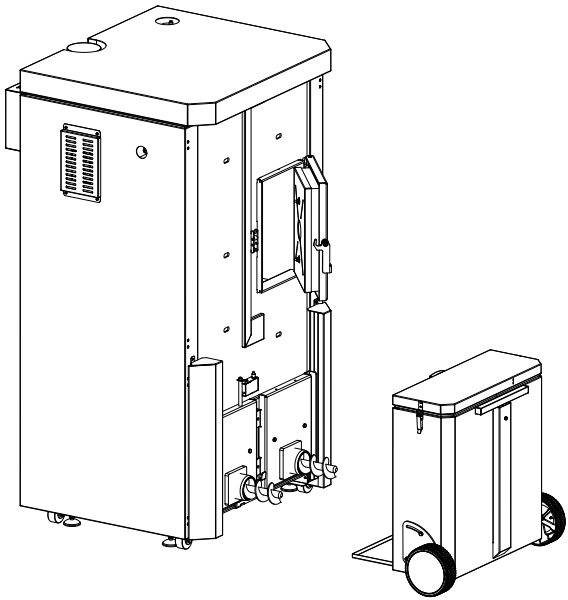
11 - MAINTENANCE AND CLEANING

In the case of a Logika boiler with Easy Clean kit, proceed as follows:

- clean the turbolators manually as described previously, if the boiler does not feature the automatic turbolator kit; and if it does feature this kit, cleaning occurs automatically upon each ignition of the boiler (so, every 24 hours).
- it is advisable to clean the firebox once a month. open the door on the firebox and use an iron pallet to move any residual ash into the hole of the firebox. This ash, with the assistance of the auger, is deposited in the ash drawer which, in this case, is the trolley.
- run the cleaning cycle (see sequence b page 11)



- cleaning of the trolley is to be done once per season but depends on the type of pellet used and the frequency at which the boiler is used.



IT IS ADVISABLE TO CHECK THE LEVEL OF ASH IN THE TROLLEY ON A MONTHLY BASIS

11 - MAINTENANCE AND CLEANING

ATTENTION:

The frequency with which the smoke exhaust system must be cleaned depends on the use of the boiler and the type of installation.
We recommend relying on an authorized service centre for end-of-season cleaning and maintenance, they will carry out all of the previously mentioned work and make a general check of the stove's components.

END-OF-SEASON SHUTDOWN

At the end of season, before shutting down the boiler, we recommend completely removing pellets from the tank with the use of a vacuum cleaner with an extension.
Upon re-start, when pressing the main switch (located on the back of the boiler) does not make the control panel display light up, it could mean that the service fuse needs replacing.
On the rear of the boiler there is a fuse holding compartment which is located underneath the supply socket. Use a screwdriver to open the fuse-holder compartment and if necessary replace them (6.3A delayed)

CHECKING THE INTERNAL COMPONENTS

ATTENTION!
The internal electromechanical components must only be checked by qualified personnel whose technical expertise includes combustion and electricity.

It is advisable to carry out this annual periodic maintenance (with a programmed assistance contract) which involves a visual inspection and checking the working order of the internal components.

11 - MAINTENANCE AND CLEANING

PARTS/INTERVAL	2-3 DAYS	WEEKLY	30 DAYS	60 DAYS	EVERY SEASON
Manual cleaning of turbolators (1)		•			
Cleaning of firebox			•		
Cleaning the bottom ash drawers (2)		•			
Cleaning the trolley (3)					•
Cleaning the outlet "T" (outside the boiler)					•
Cleaning the smoke fitting					•
Checking the circulation pump					•
Checking for hydraulic leaks					•
Checking the spark plug					•
Cleaning the lambda sensor					•

** The frequency of cleaning should be increased if the pellets are of poor quality.*

(1) When the automatic turbolator kit is not present
(2) When the Easy Clean kit is not present
(3) With the Easy Clean kit

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12 - TROUBLESHOOTING

CHECKING THE INTERNAL COMPONENTS

ATTENTION:
All operations that require repairs must be carried out solely by a specialist technician with the boiler extinguished, cold and with the power cord unplugged.

ANOMALY	POSSIBLE CAUSES	SOLUTIONS
The pellets are not fed into the combustion chamber.	The pellet hopper is empty	Fill the hopper with pellets
	Sawdust has blocked the feed screw	Empty the hopper and remove the sawdust from the feed screw by hand
	Faulty gear motor	Replace the gear motor
	Faulty electronic board	Replace the circuit board
The fire goes out or the boiler stops automatically.	The pellet hopper is empty	Fill the hopper with pellets
	The pellets are not fed	See the previous anomaly
	The pellet temperature safety probe has been triggered	Let the boiler cool down, restore the thermostat until the problem is resolved and switch the boiler back on. If the problem persists contact Technical Assistance.
	The door is not closed properly or the gaskets are worn	Close the door and replace the gaskets with original ones
	Unsuitable pellets	Change the type of pellets with those recommended by the manufacturer
	Low pellet supply	Check the flow of fuel following the instructions in the booklet.
	The combustion chamber is dirty	Clean the combustion chamber, following instructions in the manual
	Clogged outlet	Clean the smoke duct
	Faulty smoke extraction motor	Check the motor and replace it, if necessary
	Pressure switch broken or defective.	Replace the pressure switch.

12 - TROUBLESHOOTING

ANOMALY	POSSIBLE CAUSES	SOLUTIONS
The boiler runs for a few minutes and then goes out.	Start-up phase is not completed	Repeat start-up
	Temporary power cut	Wait for the automatic restart
	Clogged smoke duct	Clean the smoke duct
	Faulty or malfunctioning temperature probes	Check and replace the probes
	Faulty spark plug	Check the spark plug and replace it, if necessary
Pellets accumulate in the brazier.	Insufficient combustion air	Perform a general cleaning of the combustion chamber and the smoke duct. Check that the entry of air is not obstructed.
	Damp or unsuitable pellets	Change the type of pellets
	Faulty smoke evacuation motor	Check the motor and replace it, if necessary
The smoke evacuation motor does not work.	No electrical supply to the boiler.	Check the mains voltage and the protection fuse
	The motor is faulty	Check the motor and capacitor and replace them, if necessary
	Defective motherboard	Replace the electronic board
	Control panel broken	Replace the control panel
The stove does not run.	No power supply	Check that the plug is inserted and the main switch is in the "I" position.
	Blown fuse	Replace the fuse.
	Water pressure gauge intervention	Insufficient pressure of water in boiler
	Clogged smoke exhaust or smoke duct.	Clean the smoke exhaust and/or the smoke duct.
	Water temperature sensor triggered	Call for assistance

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12 - TROUBLESHOOTING

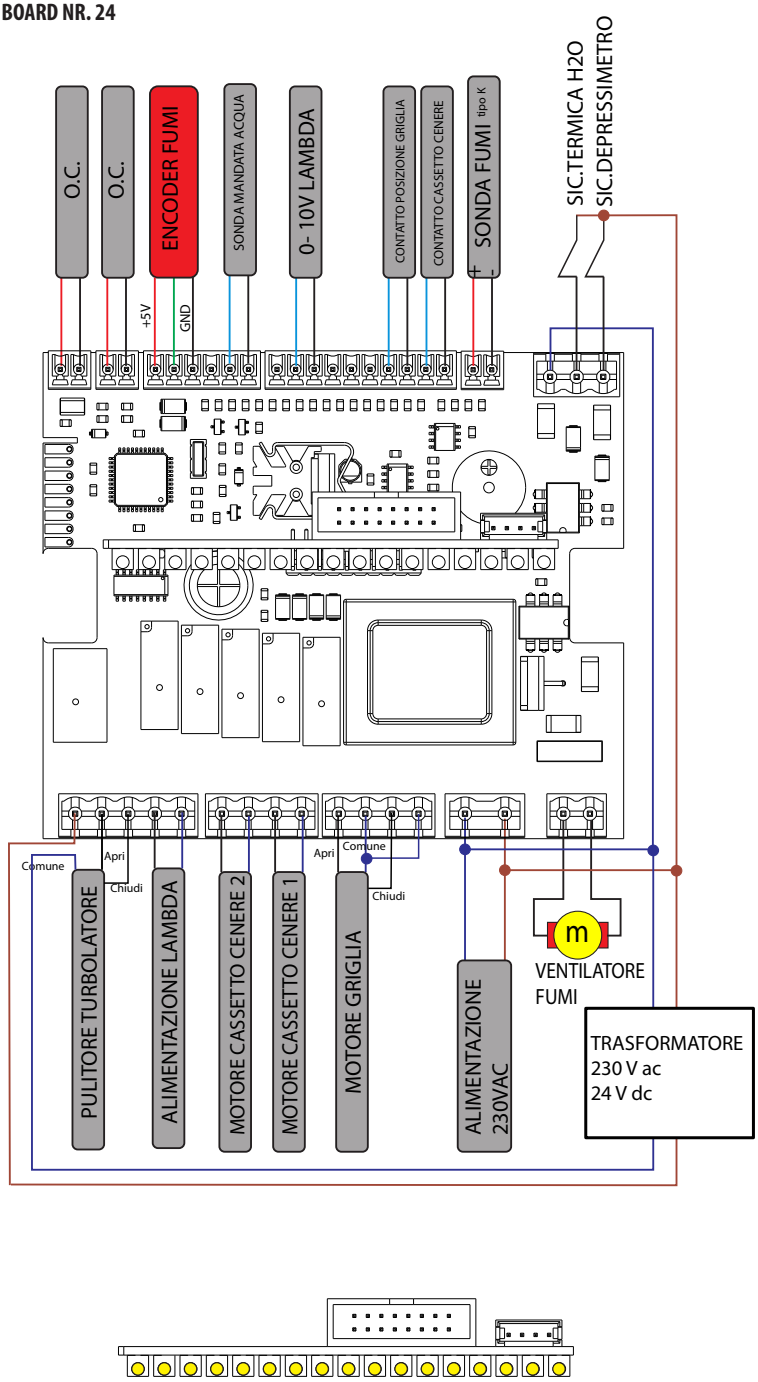
ANOMALIES RELATED TO THE PLUMBING CIRCUIT

No increase in temperature with boiler in operation	Incorrect combustion adjustment.	Check recipe and parameters.
	Boiler / system dirty.	Check and clean the boiler.
	Insufficient stove power.	Check that the boiler is properly sized for the requirements of the system.
	Poor pellet quality	Use quality pellets.
Condensation in boiler	Incorrect temperature setting.	Set the boiler to a higher temperature.
	Insufficient fuel consumption.	Check the recipe and/or technical parameters.
Radiators cold in winter	Room thermostat (local or remote) set too low. If remote thermostat, check if it is defective.	Set to higher temperature or replace. (if remote)
	Circulator does not run because blocked.	Free up the circulator by removing the plug and turning the shaft with a screwdriver.
	Circulator does not run.	Check the electrical connections of the circulator; replace if necessary.
	Radiators have air in them	Vent the radiators

ATTENTION!
The operations in italics must be carried out by specialised personnel.
The manufacturer will not be liable and the guarantee lapses if this condition is not respected.

13 - WIRING DIAGRAM

REMOTE BOARD NR. 24



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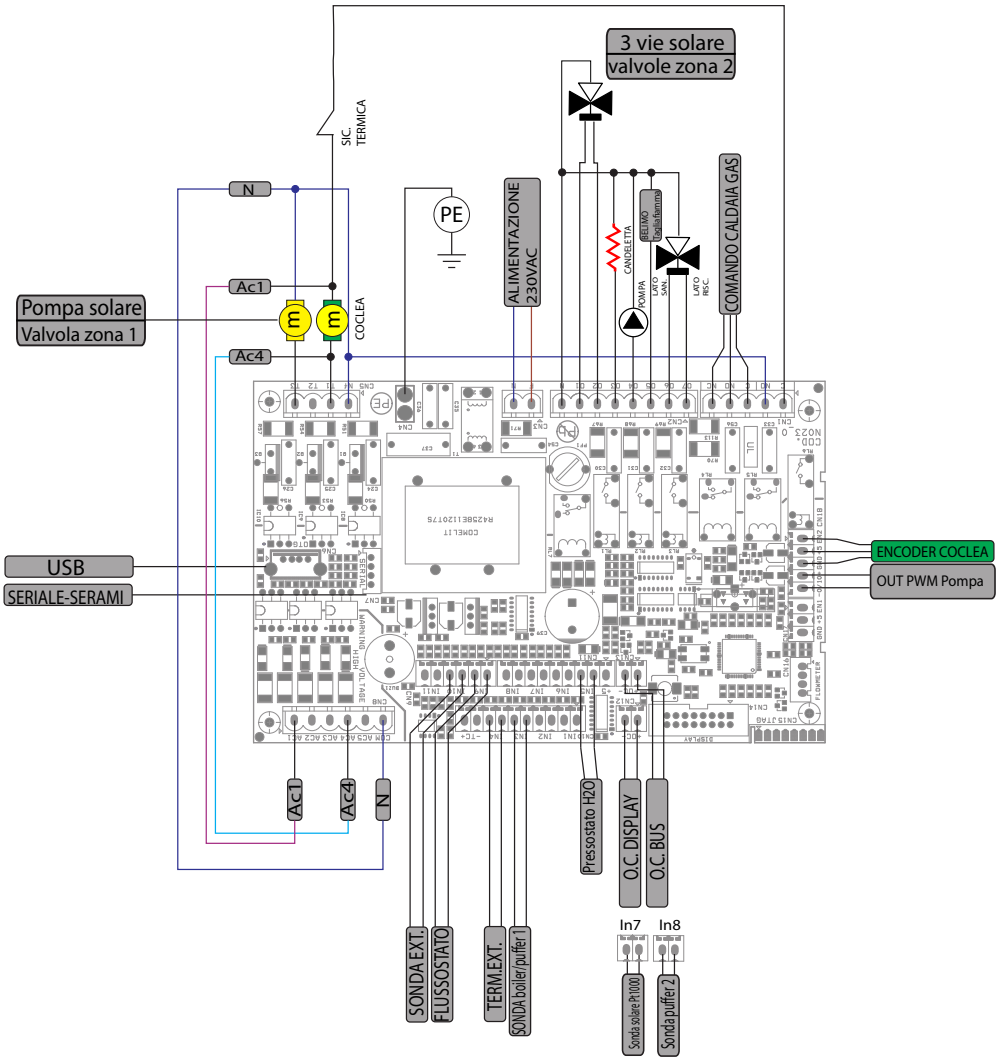
13 - WIRING DIAGRAM

MOTHERBOARD NR. 25



Via La Croce n°8
33074 Vigonovo di Fontanafredda (PN) – ITALY
Telephone: +39 0434/599599 r.a.
Fax: +39 0434/599598
Internet: www.mcz.it
e-mail: info.red@mcz.it